

ESTABLISHED 1819.

THE AMERICAN FARMER RURAL REGISTER.



"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

NEW SERIES.]

OCTOBER, 1873.

[Vol. II—No. 10.]

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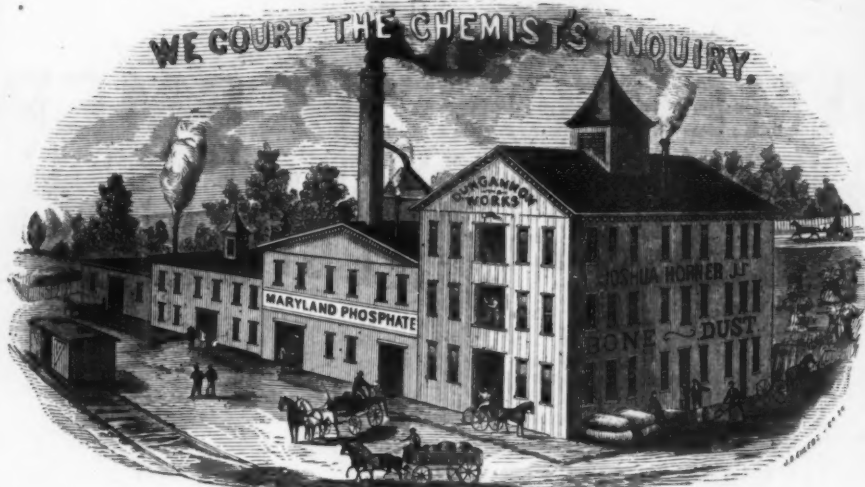
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[ESTABLISHED 1848.]



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Co-operative Cheese Factories.

A North Carolina correspondent, who contemplates the introduction of the manufacture of Cheese into his vicinity, upon the co-operative system, which has been so successful wherever it has been tried, not only in the Northern, Eastern and Western States, but also in England, has called upon us for such information as will enable him to enter aright upon the business. We have for several years past, not only through the pages of the *American Farmer*, but in other journals, been appealing to the farmers of Maryland and the neighboring States to take hold of this question, being thoroughly satisfied of its adaptation to our position, from the facilities at our command for the successful prosecution of the manufacture of the article and also for its transportation to foreign markets through the numerous lines of steamships now established from this city to Europe. It has been proved beyond controversy, that wherever these factories have been established, the demand for the product has steadily increased, and that its quality has been much improved by the systematic mode of its manufacture over the old practice, and hence it has largely taken the place of meats in such locations.

The system of uniting the Cheese and Butter dairies in the same establishments, has but recently been adopted, and is found effective, thus keeping the factories in operation all the year, instead of for the limited period required for the making of Cheese alone.

We believe that there can be no fears of

over production in this business. In addition to the increase of foreign consumption, and decrease of importations from abroad, our own population will require, continually, large additions to their supplies. Add to this consideration the fact of the immense number of immigrants to this country, who will, for each successive year, be consumers instead of producers, it being conceded that it is two years before the immigrant farmers produce any surplus over the amount required for their own support, and the demand does not seem likely to be less than the supply.

In commencing a factory in a neighborhood where there are none already established, it will doubtless be found more economical, for the first year, to obtain from the North a person well versed in the business, and qualified to superintend the erection of the buildings requisite for the manufacture, and to select all the machinery and tools required for the conduct of the business, as well as the management of the factory after it is in operation. A visit in person to Utica, in Oneida Co., or Syracuse, in Onondaga Co., N. Y., to make such a selection as might be desirable, would well repay the expense incurred, and we are sure that the editor of the *Utica Herald*, who is the best authority in this business, and is located in the very heart of the Dairy district, will take pleasure in referring any stranger in that city, to the most reliable parties for such supplies as may be necessary.

We have seen the estimate made, that a factory complete with all the buildings and

machinery necessary for a business requiring 300 cows, (and less than that number it is thought would not pay expenses.) would cost about \$1300—for 500 cows, the cost would be about \$1800. Some of these factories, in the state of New York, where there are not less than 1200 to 1500 in operation, are on so extensive a scale as to use the milk of 2000 cows—of course this can only be the case in localities of thickly populated farming communities. Some of the factories are established on the Mutual system, the farmers in the neighborhood being the stockholders, and each, in proportion to the milk furnished, participating in the profits. In other cases the milk is bought at a certain price, for which the cash is paid, the factory being the property of individuals or firms, who alone are the responsible parties. The laws of the State are very stringent against adulterations of the milk prior to its delivery at the factory—and the utmost care and cleanliness is required in all the operations of the manufacture.

Wherever these factories have been established, not only have they been found highly remunerative to the farmers engaged in supplying the milk, by the small number of persons requisite for the work, thus saving labor, but their lands are improving all the time from the quantity of manure made by the stock maintained—the cows realize for their owners their original cost every year, the lands being mostly set in grass, and the whey from the factories, which, to a certain extent they are entitled to receive free of cost, enabling the "patrons" in a great degree to escape from much of the outlay in cash for the food necessary for their stock hogs.

We shall from time to time furnish such further information upon this subject as we may deem of interest to our readers; in the meantime we submit below a description, by the editor of the *Utica Herald*, of a visit to one of the best conducted factories in the great dairy district of New York, and the means employed by which the establishment has been brought up to the highest state of perfection, notwithstanding the fact that the equipment and implements are all of the primitive description, introduced when the system of dairying under notice was first established.

We may add here, that so far as our knowledge extends, there are in the Southern States

of the Atlantic seaboard, but three Associated Cheese factories, namely, one at Rising Sun, Maryland; one at Hamilton, Loudon Co., Va.; and one at Ashville, Buncombe Co., N. C. There may be others of which we do not know, but we should be glad to hear from these, and to know of the success they are meeting. Our friend Taylor, of Loudon, will soon, we hope, be able to make a report of the operations of this year, even if his multifarious duties do not permit him to go further into detail of the operations of his factory.

Plymouth Cheese Factory.

Every dairyman has heard of the Plymouth factory and its high prices. Its success has well nigh excited the envy of the factories throughout the State. Aware of this fact, we set out, in company with Dr. Wight and his cheese-maker, Mr. Gates, to ascertain, if possible, the secret of success.

We reached the factory in the morning before the curds were ready to cut, and watched the process until some of them were ready to go to press. We concluded the secret lies in good judgment and efficient management. We inquired into the mode of receiving milk, and every detail of manufacture. The milk is not all delivered twice a day, but all has to come in good condition, and the cream on what is delivered at night is prevented from rising by the use of an agitator.

Whatever is assigned any one to do, he attends to, and there is no dictating or meddling; and whatever he does he is paid a fair price for. No one is expected to work or spend his time for nothing. Everything is kept in perfect repair, and all repairs are made at the earliest possible moment.

Many factories have conveniences which the Plymouth has not. Nearly all the operations are performed just as they were nine years ago, when the factory started. Few changes have been made. This year, however, for the first time, steam is introduced, self-heaters having previously been used; but it makes no difference in the character of the cheese. The temperature of the cold water run around the milk at night is 40°, and it is pumped from a well by the engine directly into the pipes that supply the vats, without the use of a reservoir. The common screw press is used, and the cheeses are pressed as long as they can be and get the hoops empty for the next day's curd. There has never been a curd-mill in the factory. Milk is received through conductors, instead of by dumping, as is now almost universal. The cheeses are set on benches, made of boards as wide as required for a cheese to set on. These boards are placed wide apart—a foot or more—so that the cheeses have plenty of room. No extra provisions are made for ventilation, but the factory is airy, clean and sweet, and stands in a clean neighborhood.

The day we were present, the factory received 16,000 lbs. of milk, which was made into 24 cheeses, weighing about 70 lbs. each. This was the milk of 750 cows.

The process of manufacture was the same as that practiced in many factories which do not grind the curds. The milk was heated to a temperature of 82°. Sufficient rennet was used to cause coagulation in 12 to 15 minutes, and make the curd ready to cut in 40 to 45 minutes. The cutting was done with a common perpendicular knife, the cross-cutting being continued until the curd was quite fine. The heat was raised gradually to 100°. The stirring while heating was at first with the hands, and sufficient to prevent packing on the bottom. As soon as the curd began to have a little toughness, the curd-rake was introduced and the balance of the stirring done with this. After the required temperature was reached, very little stirring was done. The curd stood in the whey until nearly ready to dip, when the whey was drawn to the surface, where it was allowed to remain until the acid was sufficiently developed. It was then dipped in the curd-sink, and all hands turned in to stir and air it as the whey drained off. When the whey had ceased running freely and the curd was well broken up and loose, three pounds of Ashton salt—they will use no other—was sprinkled on and stirred in for every 1,000 pounds of milk. When another vat is not crowding to be dipped, there is no hurry in getting the curd out of the sink. If the sink is wanted, the curd is considered ready for the hoops as soon as salted. The pressure is put on gradually, and finally the screws are put down as firmly as a man with a lever can do it. At intervals these screws are tightened. They are started the last thing on going to bed, and again in the morning as soon as the factory is opened. Then they stand until the presses are wanted again in the afternoon. All the hands are boarded in the factory, one end of which is fitted up for the purpose. Thus far it will be seen that there is nothing special, except the thorough business way of doing everything.

We will now give what we consider the essential points. When the Plymouth factory was started in 1864, Miss Sternberg, who received her instructions at the Eagle factory in West Edmeston, Otsego county—which has turned off many excellent cheese-makers—was hired to run it. She has had charge of the factory ever since, and runs it now. Her experience enables her to tell with exceeding closeness when a curd is fit to dip. Now and then she may vary a little, but her senses of taste and smell enable her to make a remarkably even lot of cheese. And she does not intend to make soft cheese, for the sake of getting it early to market, but works the curds down, spring, summer and fall, so as to make a good shipping article. Nothing less than twenty days old is allowed to go out of the factory. Here is a hint to those who indulge in soft cheese, the effect of which is

now, as we are credibly informed, seriously felt on the market, causing a depression, as we have before suggested was probably the case.

Our factory-men must learn to make and sell only good shipping cheese, and stop sending off soft, green curd, if they want to make a good reputation, and get uniformly good prices.

Another fact we observed which is worth mentioning. None but old rennets are used in the Plymouth factory. They are mostly saved by the patrons, who have been taught how, and are paid good prices for good rennets, none others being accepted. Some are dried on bows or sticks, and some are filled with salt; but all are clean and sweet, and are kept tied up in bags in the factory. It is a rule to use no rennet less than a year old; if two or three years old, the better. With such rennets a better, firmer and finer curd can be made than with green rennets, and we think more cheese can be made from the same milk with the old rennet. If a change be made from old to new rennets, the difference in the curd will be apparent to the merest novice. The green rennet makes a softer, weaker and more slippery curd than old rennet does. The rennets are prepared at the Plymouth factory by soaking in pure whey; and common basket annatto, prepared with potash, is used for coloring.

The great secret in making fine cheese, where the milk and everything else are right, is in knowing when to dip the curd—when, to use the expression of the maker at the old Fairfield factory, "the curd is tempered right." This is an apt term to use. Almost every one knows that the difference between a poor and a good cutting tool is often in the temper. Both may be made from the same steel. Tempering is a very nice business, and requires experience and a peculiar ability to determine by appearance the exact degree of heat. The same is true in regard to the amount of acid in making cheese. The cheese must be "tempered" right, or it will be too hard or too soft.

The Plymouth factory, in Chenango county, and the Old Fairfield, in Herkimer county, are the nearest alike as regards the style, firmness, texture and flavor of their cheese, of any two factories we have seen—and probably they are the best two in the State.

PLASTER ON CLOVER.—Mr. Geo. Geddes, the well-known N. Y. farmer, in the course of some remarks on the cultivation of Clover, concludes with the following excellent advice:—"I add one thing as perhaps of more importance than anything I have said. Red clover, large or small, should have frequent dressings of finely ground plaster, applied on the young plants soon after they commence their growth, and immediately after mowing a crop of hay, to start a vigorous growth, either for a seed crop or for pasture."

Agricultural Calendar.

Work for the Month—October.

This month usually gives constant though not irksome occupation to the farmer, but its toils are lightened by the reflection that it sees the gathering in of the harvests of one year and the seeds of those for another committed to the bosom of mother earth, there to undergo the ever recurring miracle of decay and germination, since "that which thou sowest is not quickened, except it die."

Wheat.—This crop, if not already gotten in, should be pushed forward, in this latitude at least, with all energy, in order that by the 15th, at farthest, seeding may be finished. Otherwise the much to be desired fall growth is not fully attained, and the plant suffers in consequence. Every effort should be made, late as the crop may be put in, to get the land in good order, and a moderate dressing of some good fertilizer is, in cases of late sowing, of more than even ordinary value. Here the ammoniated manures are of greatest service, forcing on the growth of the plant from the start, as well as contributing to the final result of the crop, and quickly operating kinds, as Peruvian or fish guano, or nitrogenized phosphates, are more desirable here than ground or dissolved bones alone.

Rye.—It is very late to sow this grain, and it should be gotten in very early this month if at all. Endeavor by as good preparation of the ground as practicable to make quick germination and rapid growth possible. For more particular remarks upon both these crops, we refer to preceding numbers of the Farmer, where the subjects have been treated at length.

Corn Fodder and Tops ought to be gathered in time and properly secured. Hay will this season probably bring such a price that all the provender that can be substituted for it will be useful.

Buckwheat should be harvested before it is touched by hard frost. Cut when about half the seed is ripe, put up in small shocks and as soon as dry thresh. Preserve the straw for your stock, as it makes good fodder, its quality and keeping properties being improved by adding a little salt.

Pumpkins and Roots ought to be gathered in and stored away before hurt by frost. Ruta Bagas will stand out much longer without injury than Beets and Mangels. In handling on the field and in storing

care should be had not to bruise them, as such treatment induces decay.

Manure Making.—Permit us to refer to our last issue, where we spoke of the importance and the facility of gathering together all the substances offered by the farm and its environs for composting. A month's experience on our own place since we wrote what then appeared, has given us a telling illustration of the vast amount of material which can be gathered together in a small space of time to augment the size of the manure heap. If as we firmly believe, and as competent and eminent chemists now aver, the artificial fertilizers applied to soils depend for their effect upon, and are effective in exact ratio to, the presence of mould or humus in the soil, then that farmer is wilfully negligent who fails to secure the means at hand of increasing the supply of that substance in his soils. The making and continued increasing of manure piles, in which are deposited all decaying organic matters, and the base of which is barn-yard manure, is then the duty of every farmer who seeks to do the best for his land, since the fertility of the land cannot be preserved without constant supplies, in one shape or another, of putrescent organic manures.

Muck.—This is a good time of year during dry weather to dig muck for use in the stables, or to add to the compost heaps.

Fall Ploughing.—Almost all soils, save perhaps light clays, are improved by fall ploughing—provided always they are ploughed when in a proper condition, though the alternate freezing and thawing which soils so treated undergo will admit of their being ploughed when more wet than is otherwise desirable.

Liming.—A good time to apply lime is just after fall ploughing. The effect is then begun to be felt in the next year's crops. Our readers know we do not believe in the old-fashioned doses which were formerly administered, but, except on land of exceptional character, that 40 or 50 bushels to the acre is generally sufficient for a rotation.

Draining.—We repeat our admonition of last month, to endeavor whenever other duties admit to drain your wet lands. Any system which secures the end is a desirable one, but the more thoroughly the work is done the more satisfactory the result.

Cattle Yards.—Spread occasionally in these, rough materials, litter, leaves, muck, &c., to absorb the urine. Dust a little plaster around from time to time, and by the spring

you will have, from the mingled dung and urine, and the substances so added, a large amount of valuable manurial material which will be of great value.

Fattening Hogs.—Prepare your pens for these by covering the bottoms with muck and leaves, which should be replaced by fresh as they become saturated with the excrements of the hogs. The dung and urine of these animals is very rich in fertilizing properties, and care should be taken to save and accumulate as much of them as possible, and this is best accomplished by the use of rough substances in the pen as recommended, which ought to be composted as they are withdrawn upon the addition of fresh supplies. As soon as put up the hogs should receive two or three doses of flour of Sulphur in their slop—this acts as an opener and regulator of their bowels. Afterwards they should regularly receive every few days a handful of powdered charcoal, or of ashes and salt. At first, feed soft food, such as pumpkins, apples and roots. If these are cooked, or made into mash with meal and bran, it will be better for the hogs. The meal should be gradually increased. Soft corn may be fed to them as it is husked out. In cooking even unground corn the saving is very great, but cooked meal in fattening swine will doubtless result in a saving of nearly 25 per cent. Hogs do so much better when their fattening is begun early that they should be put up as soon as circumstances will allow.

Milk Cows.—As pasturage grows short, see that these receive a good mess of bran and meal, and a little hay at night. The cost will be more than repaid.

Young Stock of all kinds should go into winter quarters in good condition. Once run down it is hard to bring them up again, so see that they begin to have an increase of nutritious provender.

Old Orchards.—The present is a good time to go through your orchards; scrape off the moss and lichens, cut away the dead and broken limbs, and apply a mixture of soft-soap, sulphur and carbolic acid. A gallon of soap, a pound of powdered sulphur, and a few drops of carbolic acid will make a mixture, sufficient for a large number of trees, which will clean them thoroughly, destroying all insects and their eggs, as well as parasitic vegetable growths. Apply the mixture, with an ordinary white-wash brush, to the trunk and all the larger limbs.

Planting Young Orchards.—We promised in our last to refer at some length to this subject—but as our space here is rather limited, we devote to it a special article, which will be found on another page.

Interesting Experiments in Wheat Culture.

We find in the Philadelphia papers a statement from Mr. J. I. Carter, of a series of experiments made by him at the Experimental Farm, West Grove, Pa., the past season. The experiments appear to have been made with great care, and the results are deemed of sufficient importance to our readers to induce our transferring the paper to the columns of the *American Farmer*. It will be seen that in this experiment, the Fultz wheat was one of the earliest in ripening, and was decidedly ahead of either of the 16 varieties tested, in the product of the grain—in weight of straw, one variety was heavier by a few pounds. The result in the experiments with the manures will be very useful, and the formula proposed for the future will be found worthy of attention. It will be seen, however, that the drilled ground bone, without any mixture, produced within 5 lbs. of the weight of dissolved South Carolina rock, and a decidedly larger weight of straw than either of the other applications—a result of considerable importance to farmers who object to the trouble of making the mixtures. Except in a single case, in which it was put in on 28th Sept., the seeding was done on the 18th Sept., the quantity of the Fultz variety seeded being at the rate of 1½ bushel to the acre, drilled in 2½ inches deep, showing in the single case of broadcasting, that the result was more profitable than that drilled, all things else being equal. This is contrary to the general results in similar cases, and as is particularly shown in the abstract from the Agricultural Bureau's report, as published in our Sept. No. The depth of the drilling in the three cases noted, was ½ inch, 4 inches, and 2½ inches—in other experiments we have seen, the result was decidedly best where the seed had been drilled in from 1½ to 2 inches in depth.

VARIETIES OF WHEAT.—The ground used was an oats-stubble with a coat of barn-yard manure ploughed under, and a surface application of dissolved bones and ashes; compost put on at the rate of 400 lbs. of dissolved bones and 8 bushels of tan ashes per acre, harrowed in. The seed was sown broadcast at the rate of 2 bushels per acre, on the 20th of September, 1872, and the wheat cut July 9th to 14th, and threshed July 15th to 20th. The wheat was weighed when run through the fan once and was not entirely clean, but as the raking of the plots were not included in the weights, the results would not be seriously altered by the second cleaning. The

plots contained ONE-EIGHTH of an acre, with a space of two feet between them.

	Color of Grain.	Smooth or Be'd.	When Ripe.	Lbs. of Straw.	Lbs. of Grain.
1. Lancaster Red...R.	B.		Jy. 10.	370	230
2. Kough & Ready...R.	S. & B.		" 10.	521	271
3. Brittany...R.	B.		" 10.	300	230
4. Rogers...Am.	S.		" 14.	485	251
5. Weeks' White...W.	B.		" 9.	347½	216½
6. Tonzelle...W.	B.		" 14.	443	213
7. Fultz...R.	S.		" 9.	503½	282½
8. Jennings...W.	B.		" 9.	454½	223½
9. Shoemaker...R.	S.		" 12.	461½	228½
10. Tappahannock...W.	S.		" 9.	276½	147½
11. Arnold's No. 9...W.	S.		" 10.	441½	204½
12. Kansas...R.	B.		" 11.	389½	220½
13. Dot or Paducah...R.	B.		" 9.	457	226½
14. Lancaster Early...R.	B.		" 9.	430	240
15. Way...R.	B.		" 9.	430	240
16. Old W. Ch'f Med. R.	B.		" 9.	400	225
17. Watt Rye, weight of Straw and Grain.					818
18. Brenman, " "					910
19. Com'on Rye, " "					747
20. Clean Screenings used for seed,				249	150
21. Perfect large grains of wheat,				247	190

FERTILIZERS ON WHEAT.—These experiments were made upon wheat-stubble ground upon which barn-yard manure had been used for previous crop. The fertilizers were applied at the rate of \$12.50 per acre, put on the surface and harrowed in on the 14th of September. On the 18th of September one and a half bushels per acre of Fultz wheat was drilled in. Plots contained ONE-EIGHTH of an acre, with two feet space between the plots.

	Lbs. Straw.	Lbs. Grain.
1. Bone and Ashes Compost*.....	345½	228½
2. Dissolved South Carolina Rock†.....	398½	257½
3. Kalnit or German Potash Salts.....	347	223
4. Fr. f Ville's "Wheat Food,"‡.....	421	251
5. Nothing.....	358	190
6. Ground Bone on surface.....	353½	222½
7. Ground Bone one-half on surface and one-half drilled in with the wheat.....	400	238
8. Ground Bone, all drilled in with the wheat.....	448	252

The dissolved South Carolina rock spoken of above, also did better on grass this season than any other of twenty fertilizers used.

MANURES FOR WHEAT.—These experiments were made on plots containing ONE-SIXTEENTH of an acre, and were treated alike, and put in September 18th, except plot No. 1. The drilling was done with Bickford & Huffman's drill.

	Lbs. Straw.	Lbs. Grain.
1. Drilled in 2½ in. Sept. 28.....	106½	62½
2. Broadcast, harrowed in Sept. 18.....	150	90½
3. Drilled in 2½ in. Sept. 18.....	130½	88½
4. " ½ in. covered with roller. Sept. 18.....	127½	77½
5. " 4 in. Sept. 18.....	118	71
6. " 1 bushel per acre, Sept. 18.....	134	75½
7. " 2 " " Sept. 18.....	131½	87½

* The bone and ashes compost was made of one ton of ground raw bone, 340 lbs. sulphuric acid and 50 bushels of unleached tan ashes.

† The South Carolina rock was treated with 700 lbs. sulphuric acid to one ton of ground rock, and costs \$30 per ton.

‡ Ville's "wheat-food" was made as follows, for one-eighth of an acre: 30 lbs. pure bone phosphate, 10 lbs. saltpetre, 12½ lbs. sulphate of ammonia, 15 lbs. calcined plaster.

From the experiences of the past two seasons I would suggest to farmers to try the Fultz wheat, just enough to show its suitability to their soil and circumstances. With us it has proved a hardy, stiff-strawed, early and productive variety. Grain small, but reasonably plump. The Rogers is also a fine wheat—not so productive or early as the Fultz, but a better quality of wheat, and would probably do finely on strong ground, or with high manuring.

The action of certain fertilizers is too uncertain to warrant the recommendation of any particular one, though the general result of their use has been favorable with us. From our experience with fertilizers on various crops this season, we have decided to use principally the following preparation, giving the quantity per acre:

225 lbs. dissolved South Carolina rock at 1½c. per lb.....	\$3.37½
44 lbs. sulphate of ammonia at 6½c. per lb..	2.97
88 lbs. muriate of potash at 3c. per lb.....	2.64

Cost per acre..... \$8.98½

These should furnish the three most valuable ingredients in all fertilizers, the phosphate, ammonia and potash. This we propose to apply in addition to a light coat of yard-manure, ploughing both down as early as possible and drill in the wheat about the middle of September.

THE VALUE OF A TON OF MARL.—According to Prof. Cook's analysis, a ton of the green sand marl of New Jersey contains the following chemicals, which, at Philadelphia wholesale prices, make its valuation as below stated:—

Lime.....	106 lbs., at.....	\$ 0.40
Potash.....	96 " " 10½c.....	10.08
Sulphuric acid..	12 " " 2.....	0.24
Phosphoric acid.	26 " " 40.....	10.40

\$21.12

This is of course assuming that the ton of marl is perfectly dry. As it is usually purchased by farmers it contains quite a large per cent. of water, which must be considered in the estimate of value. These valuable chemical fertilizers can be set free in the marl by composting it with swamp muck or with lime, thus rendering them available for the needs of vegetation.—*Practical Farmer.*

Experiments with Wheat.

Messrs. Editors of the American Farmer :

In some late number of your paper, you made a call for the results of trials of various kinds of wheat for publication, on the ground that it might be of advantage to your many readers. Having made an experiment during the past season to test for myself the relative merits of a number of varieties of wheat, and also the relative merits of the several fertilizers in most common use among our farmers, and the relative advantages of thin or thicker sowing, and having carefully conducted it

from beginning to end, and tabulated the results, I am willing to furnish you with it if you think it worth the publication.

Some years ago I culled out from the French White Chaff Mediterranean wheat—a red bearded wheat which I was cultivating—a number of heads of smooth white wheat which seemed to be very early, and which, when rubbed out, produced six ounces of very pretty white wheat.

This six ounces of wheat I planted in a square in my garden in rows one foot apart, dropping the grains separately six inches apart in the row. The six ounces planted the one-fiftieth of an acre—and the product therefrom the next summer was seventy pounds of very handsome white wheat. I don't know the name of this wheat. It is like, and it may be, the Boughton or Tappahannock wheat. I call it the Garden wheat, by way of distinguishing it.

This experiment induced me last year to go through the several sorts of wheat that I was cultivating and cull out the finest heads of each variety, and in this way I saved small quantities of Arnold's Hybrid wheat, a red smooth variety; of Treadwell wheat, a white bearded variety; of Wickes' wheat, also a white bearded variety somewhat like the Treadwell; of Diehl wheat, a smooth white; of French White Chaff Mediterranean, and of my Garden wheat. I found among the Treadwell wheat and the Wickes' wheat a smooth headed wheat, like the bearded in all respects except the beards. I selected some of these heads and kept them separate.

I procured from the Patent Office a small quantity of Tappahannock wheat and also of Fultz wheat. The Tappahannock being an early smooth white wheat, and the Fultz a smooth red wheat, equally as early as the Tappahannock.

I prepared a piece of land 273 feet long by 684 feet wide, the area of which is given more particularly in the accompanying table. It was not in first-rate condition, but I ploughed it well, and harrowed and rolled it until I got it into tolerable order.

On one outside strip, 16 feet wide, of this land thus prepared, I sowed with Seymour's Broadcast Machine a mixture of 20 lbs. Guanape and 15 lbs. of Plaster of Paris, this was at the rate of 200 lbs. of Guanape and 150 lbs. of Plaster to the acre. The next strip, 8 feet wide, was fertilized with a mixture of Patapsco and Plaster-of-Paris. The next strip, 124 feet wide, had no fertilizer applied. The next strip, 16 feet wide, was fertilized with a mixture of Patapsco and Plaster-of-Paris, sowing on this and the 8 foot strip 42 lbs of the mixture, of which 24.64 lbs. was Patapsco and 17.56 lbs. was Plaster, being Patapsco at the rate of 164 lbs. to the acre, and Plaster-of-Paris at the rate of 117 lbs. to the acre. The next strip, 16 feet wide, was fertilized with 42 lbs. of Excelsior and 30 lbs. of Plaster-of-Paris, which was at the rate of 419 lbs. of Excelsior and 290 lbs. of Plaster-of-Paris to the acre. I did not mean to sow this latter

so heavily, but it was very dry and ran through the machine faster than I was aware of. These fertilizers were then harrowed in.

I then proceeded to plant my wheat by drawing drills an inch deep, one foot apart, and dropped the grains one at a time, in a portion of the rows at intervals of six inches, and in a portion of the rows at intervals of three inches. It was a very slow process. It was begun on the 1st day of October and was not finished until the 14th. The planting, however, during that interval was interrupted by rain for several days. The wheat was planted in the order named in the table, beginning with Arnold's Hybrid and ending with the Fultz. I had the wheat cultivated in the spring.

About the last of June I cut the wheat and bound it in separate parcels, labeling each parcel. Shocked it and permitted it to stand until the 21st of July, when it was perfectly dry, and then I weighed each parcel in the straw, then threshed each parcel separately, put it through the fan two or three times, and then weighed the wheat from each parcel separately. I used Fairbanks' Platform Scales to weigh the parcels in the straw, and used the common merchants' scales or balance to weigh the wheat when threshed.

The actual quality of land from which each parcel was cut, the actual weight of each parcel in the straw, and of each parcel of grain, with the rates per acre, and a summary of the product of each kind of wheat, and of the product of each strip of fertilizer, with the rates per acre, are given in the accompanying table.

The Arnold's Hybrid wheat and the Treadwell bearded wheat had the advantage of being planted the first three days of October, and then there was an interval of some days, and the results show very plainly the difference in the time of sowing. The product from the Arnold's Hybrid wheat was not of good quality.

The fly seemed to injure some two or three of the patches of wheat where the Excelsior was used more than elsewhere.

The Fultz wheat, though planted last, was ripe with the first, and if it had had the advantage of the earlier planting it is difficult to tell what it would have produced.

The table shows that the planting at intervals of three inches apart in the row produced much heavier results than the planting at six inches; it is proper to say also that it ripened earlier, and the grain was of better quality.

The table has been prepared with considerable care, and contains all the items of actual results so that any one may calculate the rates per acre for themselves, if they wish to test the accuracy of my calculations, which have been (necessarily from the number of them) hurriedly made, and which may be in some cases somewhat inaccurate.

Hoping you may find the table, and this accompanying explanation of it of some use to your readers, I am, very respect'y, yours,

MATTHEW HARRISON.

Leedsburg, Va., Sept. 4th, 1873.

Kind of wheat and number of rows, which are one foot apart.	No. of in. apart the grains, are dropped in the rows, one grain in a place.	Patapasco—164 lbs. to acre. 16.43 lbs. Patapasco, 11.56 lbs. Plaster. A breadth of 16 feet.						Excelsior—419 lbs. to acre. 42 lbs. Excelsior, 30 lbs. Plaster. A breadth of 16 feet.						Summary. A breadth of 68½ feet.					
		Quantity ground.	Quantity wheat in straw.	Rate per acre of same.	Quantity wheat threshed and cleaned.	Rate per acre of same.	Quantity ground.	Quantity wheat in straw.	Rate per acre of same.	Quantity wheat threshed and cleaned.	Rate per acre of same.	Quantity ground.	Quantity wheat in straw.	Rate per acre of same.	Quantity wheat threshed and cleaned.	Rate per acre of same.	Quantity ground.	Quantity wheat in straw.	Rate per acre of same.
Arnold's Hyb'd, smooth red.	6	sq. ft.	lbs. oz.	lbs.	lbs. oz.	lbs.	sq. ft.	lbs. oz.	lbs.	lbs. oz.	lbs.	sq. ft.	lbs. oz.	lbs.	lbs. oz.	lbs.	sq. ft.	lbs. oz.	lbs.
10 rows.....	6	160	20.8	5581	4.10	20.99	160	18.4	4968	4.10	21.13	160	18.4	4968	18.12½	18.93	687.5	78	4796½
27 rows.....	3	432	44.12	4512	12.6	20.80	432	30.8	3075	9.8	15.96	432	30.8	3075	56.9	22.12	1856.25	186.2	4382½
Treadwell, bearded white.	6	240	21.12	3948	6.9	19.92	240	16.12	3040	5.34	15.78	240	16.12	3040	33.11½	23.72	1031.25	110.	4646.4
15 rows.....	3	448	45.8	4424	13.13	22.38	448	41.4	4011	15.1	24.61	448	41.4	4011	67.10	25.83	1925.	193.8	4332.
Tappanham's, smooth white.	6	32	1.8	2042	0.64	9.57	32	1.8	2042	0.84	10.53	32	1.8	2042	2.04	12.47	118.5	7.	2573
Not quite 2 rows.....	6	240	14.8	2632	4.6	13.33	240	13.	2360	4.44	12.62	240	13.	2360	18.13	13.28	1031.25	57	2409
Diehl, smooth white.	3	240	29.12	5400	8.104	26.19	240	18.8	3358	6.44	19	240	18.8	3358	26.3	18.44	1031.25	87.8	3696
15 rows.....	3	320	31.4	4254	9.6	21.27	320	23.8	3199	8.24	18.5	320	23.8	3199	34.13	18.38	1375	105.8	3338
20 rows.....	3	320	32.12	4458	10.12	24.39	320	30.4	4118	9.114	22.05	320	30.4	4118	48.24	24.20	1375	137.4	4348
Wickes, smooth, 2 rows..	6	32	2.8	3403	0.104	14.9	32	1.12	2382	0.74	10.28	32	1.12	2382	3.24	16.67	137.5	12.8	3690
French White Chaff Med'n.	6	320	30.	4084	10.10	26.10	320	28.8	3880	9.04	20.49	320	28.8	3880	43.6	22.90	1375	123.8	3912
20 rows.....	3	416	41.12	4372	13.14	24.11	416	37.12	3953	12.24	19.40	416	37.12	3953	58.44	23.67	1787.5	108.4	4100
26 rows.....	6	192	13.8	3063	2.14	10.69	192	8.1	1829	1.6	5.2	192	8.1	1829	14.6	12.65	825.	58.4	3076
Treadwell, smooth.	6	320	23.8	3199	7.64	16.79	320	23.	3131	8	18.16	320	23.	3131	30.94	16.15	1375	94.9	2996
Garden, smooth white.	3	320	29.	3947	9.5	21.13	320	32.2	4373	11.13	26.8	320	32.2	4373	44.	23.22	131.14	131.14	4178
20 rows.....	3	160	17.4	4696	5.41	23.96	160	16.3	4407	4.104	21.05	160	16.3	4407	23.154	25.31	687.5	75.5	4772
Fultz, smooth red.	3	178	24.11	6110	7.44	30.	178	24.12	6126	7.8	30.94	178	24.12	6126	32.9	31.26	756.25	107.8	6192
11 rows.....	3	48	6.	5445	2.04	30.72	48	10.	6806	3.34	36.35	48	10.	6806	6.134	32.37	153.5	22.1	6261
4 parts of rows.....	3	4416	430.7	4246	130.44	21.42	4432	375.10	3692	121.94	19.92	4432	375.10	3692	563.134	21.65	18,903.25	1755.11	4046

Correspondence.

Thomas' Smoothing Harrow.

Editors of the American Farmer:

Some weeks since I received your kind reminder that I had not reported on this implement, as well as given some expression of my continued indebtedness to you for the variety, adapted to *all* tastes, in the contents of the Farmer.

Touching the harrow, I have tested it fairly, thoroughly, honestly, and find it wanting, utterly wanting in all the characteristics we desire in this implement. As I have always said the principle or mode of adjustment of the teeth is the correct one, and in the one sent to me is *all* that deserves the slightest commendation.

In justice to the manufacturers I will quote an extract from a letter of theirs of Feb. 7th, 1873, in which they explain that they had not been making a harrow as heavy as I wanted, and as is adapted to the limestone region of the Shenandoah Valley:

"Your esteemed favor of February 3d is received, and in reply say we have shipped you a harrow 3x3, wood of the choicest of seasoned white oak, the teeth $\frac{1}{2}$ steel, well made in every particular, weight about 300 lbs., 9 feet spread; those with Smith & Co., at Richmond, weigh 140 lbs. The harrow we ship you is built for the California trade, where we are shipping 1,000 for the parched adobe soils. They do not have any rains for many months, and their clay soil gets terribly hard. For this harrow we get at wholesale, for the California trade, \$35."

I used it as carefully as was possible on over 100 acres of wheat, and in aiding in preparing 30 acres for corn. Being too light, I fastened on a couple of pieces of timber, but in such way as to give play to the joints, and which increased the weight to, say, 400 lbs. We do not regard a harrow under 500 lbs. as at all suited to our lands. If the timber had been of such white oak as we would put to this use, small as they were, they could not meet the continued strain on them; but much of this was so cross-grained that the first day one of them broke into four or five short pieces, besides three or four teeth snapping off against the wood at the lower side, as if made of pot-metal. I carried two pieces, one with a piece of tooth sticking in, to Staunton, intending to send one to the manufacturers, but the expressman would not send them unless I paid the freight. I showed them to one of our editors, (Spectator,) and said that if a carpenter had put such a piece of timber into a hen-roost for, say, two or three of friend Rosenbarger's turkeys, it would have broken off—of the dimensions of these 3x3. The teeth called *steel*, several of our smiths pronounced chafery iron, and whilst some of them have broken as described, *all* the teeth have become so *flattened* as to cease to do

what they were made to do, and it slides over the ground making no impression.

The only benefit I have discovered in harrowing my corn-ground wheat was in smoothing the uneven places, knocking the dirt off of the corn-stubs, so that less filth was gathered in horse-raking the stubble. In the wheat on fallow land, although several strips not harrowed were left, no difference could be observed; but the season has been a peculiar one, and so much rain, induced a luxuriant growth of straw, that a fair experiment could not be made. Just so in regard to the harrow's influence on clover seed. I have an admirable stand of clover, but this is universal, so that I cannot give the harrow credit. I used it in the preparation of corn ground with my heavier harrows, they having the principal work to do, this merely smoothing the surface and inducing in some degree a finer tilth. After the corn was up I ran it over it, but the only benefit was in leveling the furrows—preventing the liability to wash.

I ought to have said in commenting on the construction, that the rods and hinges were made of rolled iron, or something as indifferent, and broke frequently, and on an examination, covered with paint as the wood and iron was, were found full of flaws and cracks. As I have before said, both to Mr. Thomas and to your readers, 'tis simply absurd for him or any other manufacturer to pretend to make a plough or harrow for this Valley, without personally inspecting it, because it is *unique*. Such a soil as that on which your friends of the Gunpowder Agricultural Club, near your city, who tested it, and no other in the United States, either on the Atlantic or Pacific slopes, or the interior anywhere, can be compared to it. A harrow to do here at all must be made of the toughest Southern or Virginia white oak, (the *best* in the North and West does not deserve the name in comparison.) 4x5 inches, and the teeth of the *best* steel 1 $\frac{1}{4}$ to 1 $\frac{1}{2}$ inches thick and inserted in the wood at a slighter inclination than in the one I have. This harrow, made as it is, might do to cultivate Wethersfield onions, where the ground is free of stones, or some of the truck-gardens around Norfolk, but for *our* uses 'tis simply absurd to think of it; and whilst, as I said to the manufacturers, they ought to have been willing to send not one, but a dozen if you please, to different parts of the Valley to have them *tested* thoroughly, they have imposed on me the task of attempting to introduce them, and at my own cost and charges, say \$35, for an implement now utterly worthless. I have had to replace much of the timber, and to take out all the teeth and give them the bend they had in the start would cause them to become loose and fall out. I have laid it up with a lot of Yankee ploughs, in which, as many of our people, I feel that I have been badly *sold*, and without the prospect of my much esteemed friend, and your valued correspondent, Geo. C. Gilmer, finding a purchaser for that sort of trumpery. No, no. If Messrs. Thomas & Co. will, at Win-

chester, Staunton, or some other point, manufacture their harrow, using our *timber and iron*, we will recommend it; as it is, we can't honestly do it. Mr. Hanger, of this county, on the smooth and unbroken lands on South river, has used it successfully—so could a farmer in the bottoms of James river. There were other matters I desired to say something about, but the length of this letter deters me. I could not say less, and might have said more. Respectfully yours, J. M. McCUE.

Augusta Co., Va., Sept. 1873.

Tobacco Culture in New England—No. 9.

To the Editors of the American Farmer:

Taking down, Stripping, &c.—After we hang our tobacco in the curing barn, it remains with little or no attention, except to regulate ventilation of the barn, until the leaves and leaf-stems are cured or dried out, so that when softened by damp air they will not swell so as, when wrung, to exude any juice or sap: it is then ready to take down, bulk and strip. "Fat stems" will not answer to go into bulk after being stripped, and if stripped and hung to dry out they never after look as neat and well as if fully cured before stripping; and again they are a source of much trouble often, and it is always preferable to let the tobacco hang longer, so that when taken down it may be all stripped at once and go into the general bulk. Oftentimes, if not fully cured, the stems swell after stripping, soon heat in bulk, and unless great care is given the butt stems rot, and thus the tobacco is injured, so that, taking all things into consideration, it is better to allow the plants to hang till there is no danger from fat stems; in doing this it frequently makes it late before the whole crop is stripped, sometimes not being through with till time to plant out the next crop, as we are dependent upon the weather to bring it into "condition;" but when the crop is set out in season a favorable growth and season ensues, and the plants ripen up evenly and early, then it cures up so that in about two months after hanging it will do to begin stripping; we now anxiously look for a warm southerly rain to soften the tobacco so we can handle it without cracking, etc.; then take down, bulk, assort and strip it. If there be not soft rainy spells, and the tobacco is obliged to hang through the winter, the greatest care must be used in closing up and keeping the curing barn closed, as, if not so, the winter winds will blow and crack the leaves to their great injury; even those hanging on the outside next the cracks or joints between the siding, in the building, will thus be injured when the best care is taken. When the tobacco comes in condition it is taken down carefully, the plants slipped from the lath, or if twined, the twine cut or otherwise taken off, and then bulked down on a tight floor, or where it will gather no dampness or dry out from outside influences; the butts of the plants are laid out, top in lapping about one-third their

length, the pile may be of length commensurate with the amount taken down, which should not be more than can be stripped in three or four days at most, as it is very apt to heat from the moisture, etc., in the stalks; and after lying a few days the leaves are matted and pressed to the stalk and together, so that it is difficult of assorting and stripping; the height of the bulk is not over three feet when it can be avoided, seldom that. The plants are packed so as to prevent any of the leaves drying out, and pains taken to keep all the leaves straight and the plants from crossing or interlacing one another, so that if necessary any plant in the pile may be drawn; the ends of the piles have tight bulk-heads of boards, or like, to exclude air, etc.; the top is covered with blankets, boards, etc., and only uncovered when stripping from the pile. In stripping it is customary for several hands to work at the same bulk on opposite sides, and while one hand takes up a plant, shakes it out, strips off the ground and all imperfect leaves, dropping the ground leaves into a basket or pile for the poorest quality, holding the imperfect as "seconds;" the stalks are then dropped for others to strip the wrappers which are assorted as to length of leaf, and, measurably, as to color; each sort is handed and kept separate, the hands are made about three to a pound, the butts kept perfectly even and neatly tied close at the butt by winding a leaf two or three times around, spreading it a little, and tucking the end into the centre of the hand; very much depends upon the salableness of the tobacco with the care and neatness with which assorting, handling, etc., is done; if done in a workmanlike manner the tobacco presents an attractive, neat appearance, and is readily sold to the speculator or manufacturer, whereas equally good tobacco, in all other respects, not so well done, will not sell as readily, and often at a price enough less to several times pay the difference in care and attention in doing the work extra well and neat.

When a quantity is stripped it is bulked, in some suitably dry place, where it can remain until sold to the dealer or till ready to pack in cases. We usually have a tight, dry room, with dry walls, floors, etc., in which to bulk; the tobacco is passed, two or three hands at a time, to one man, which he receives by the butts, puts them against his breast, and holds with one hand, while he smooths and straightens down the leaves with the other, pressing them against his body; they are then swung out straight and laid down in line on the floor, only one hand deep, the length the bulk is to be; a return is then made with another tier, the butts in an opposite direction, the tips lapping about one-third the length of the leaves; this done, he now gets on the bulk, standing on his knees, and builds up the bulk, one course at a time, being very particular to keep the butts exactly even, all leaves straight, etc., the bulk exactly perpendicular and straight on the sides. When the bulk is left it is closely covered with boards,

blankets, etc., and weighted, to prevent drying out, etc.; here the tobacco can lie, depending somewhat on the weather, etc., a longer or shorter time, till it begins to warm up to go into the "sweat," if we wish it to remain thus long, but it is seldom left as long unless the sweating process commences soon.

Unless the tobacco is sold soon after being stripped, we usually case it. This is done by making boxes of pine boards, planed on one side, the ends $2\frac{1}{2}$ feet square; sides, top and bottom $3\frac{1}{2}$ feet long; the ends or heads are cleated with cleats $1\frac{1}{2}$ or $1\frac{3}{4}$ inches square, the sides and bottom strongly nailed and the top left loose till the box is filled. Into these boxes the tobacco is packed, butts of the hands to the ends, laying them in tiers, same as bulked, keeping the leaves straight and smooth; the case is filled up, then pressed with lever and follower, or with tobacco press, and then filled and pressed again till the case contains 275 pounds or thereabouts; some are so exact that they weigh all their tobacco into the cases. Each case is weighed and its weight marked on it previous to filling, and again after filling, the weights being marked on one end, and by this weight the tobacco is sold, as a general thing. When the box is filled, the top is pressed on, all leaves being crowded in, and nailed so that it can be opened for the inspection of buyers and yet be handled as necessary in storing. After being thus cased the cases are packed in a building, (where they will keep dry and have good ventilation,) in tiers two or three deep, with spaces between each tier. In this situation they can remain and pass the sweating, curing process, if desired, which is often the case with some of our most successful culturists. Very little risk is run in tobacco passing through this sweating process where all the previous manipulations and processes have been perfectly performed, the greatest objection to the grower arising from the inconvenience from want of the funds to use again. Were growers in condition to, and would, hold their crops to pass the curing stage, speculators, manufacturers and dealers could afford to pay the producer more for his crops, and at the same time each would find it to their mutual advantage; as it now is, interest on money is so uncertain that the buyer must look to his own interest in buying to buy enough cheaper to provide for contingencies, and thus the producer is, incidentally, made to supply, or fill, the risk.

W. H. WHITE.

Westborough, Mass., Sept., 1873.

Hungarian Grass and Millet—Sowing Timothy—Deep and Shallow Plowing.

Editors of the American Farmer:

I advised you some time since that I had sown Hungarian grass seed and millet on the same day and on the same kind of ground; they are both rank growers; I think there is no difference in that respect. I have examined them carefully several times, and can

perceive no difference whatever in the stalk. There are the same number of joints, and the leaves are alike, but while the Hungarian has a smooth, even head, of a deep brown color, the millet has a cream or straw colored head, twisted like a corkscrew. I do not expect to find any difference in them as matured for fodder, but should I prove mistaken, I will report.

I notice that on page 327 of your September number you recommend sowing half a bushel of timothy seed to the acre. If your junior will kindly repeat his visit of a year ago, I will promise to show him not as good, but the best stand of timothy he ever saw, growing from a little less than four quarts of seed to the acre. The field contains $16\frac{1}{4}$ acres, was well manured and in good order; wheat was drilled in between the 12th and 15th September, 1872; the timothy seed was sown by the grass seed attachment in the rear, or behind the tubes that distribute the grain. For two years previously I had used a drill with the grass seed attachment in the front of the tubes. The tubes passing through the mellow ground threw up a ridge, and at the bottom of that ridge is the timothy seed, a very large part of it covered too deep, and what does come up will be in rows like the wheat, and between the drills of wheat. The grass seed sowing machinery being back of the tubes, the seed falls equally or evenly spread on the whole surface of the newly stirred ground, and nearly every good seed will germinate; no harrowing or rolling is necessary. For the last ten years I have aimed to sow as nearly as possible four quarts of timothy or clover to the acre. If the seed takes the stand of either will be thick enough. If it does not, from dry weather or any other cause, I do not believe a bushel of seed to the acre would make it surer.

I am glad I am not an editor of an agricultural paper, because, as such, I should be obliged to give general rules for the treatment of land and crops, while practically, in a rolling, broken country like ours, a farmer must handle the different corners of a ten-acre lot differently. You say *plough deep, plough deep*. Well, plough deep, if you want to make your mules sweat and get a poor crop of Indian corn. Our best farmers in this region do not plough more than four to four and a half inches deep. A neighbor of mine, a very large farmer and as good a cropper as any in the State, says he would prefer to have his corn ground ploughed not more than $3\frac{1}{4}$ inches deep for the succeeding crops in rotation. Oats and wheat he ploughs deeper, perhaps. There is not much objection to tilling as deep as you can manure, but no deeper. I do not by any means contend that deep cultivation is not necessary for some crops, but I think it will be found that the main crops, such as Indian corn, oats, wheat and rye were as successfully and profitably cultivated before we found out that the ground three or four feet below the surface was better than the surface itself.

L. E. RICE.

Lime as a Remedy for Fly in Wheat.

To the Editors of the American Farmer :

I notice in the September number of the Farmer some remarks about the fly. Shall I say that one proof of the slowness with which farmers take to good ideas in their profession, if they happen to be new, is their failure to use lime as a prevention of attacks of fly, or a remedy when it has appeared. Years ago, the late, not the present Wm. M. Tate, of Augusta county, Va., communicated to the *Farmers' Register* that lime would destroy fly in wheat.

In 1852 or 1853, I forget which, the *Southern Planter* published a letter from Mr. (the late) James A. (Addison) Cochran, of Augusta, on the same subject. In 1856, a second letter from the same gentleman appeared in that periodical to the same purport.

In 1877 appeared in the same paper a letter from Mr. Geo. C. Gilmer, of Albemarle, to the same purport; and a note to that letter by the editor stated that he had made an application of lime, according to the terms of the prescription, on 12 acres of wheat sowed on the 23d and 25th September, the worst fly struck he ever saw; the remedy applied about the middle of November; and this wheat yielded by several bushels—eye measure—better than any part of a large field which made, by the mill scales, 16½ bushels per acre, and would have done, it was supposed, still better if the application had been repeated in April, as it would have been, only the appearance of the wheat was so good that it was deemed unnecessary—a mistake that was obvious on the first of the following June.

If you think the interest of farmers will lead any of them to try this experiment, which can cost but a fraction per acre, can do no harm, and may do much good, you can publish the following extracts from one of Mr. Cochran's letters on this subject: "My experience thus far is to apply, (by sowing broadcast,) two bushels and a half of air-slacked lime to the acre, say about the first of November, and the same quantity from the 1st to the 25th April, giving two chances to get the lime-dust on the blades of the wheat; and also that the 'boot,' which forms around the stalk in the month of April, may become filled, on the day after sowing, with the ley made from the lime that falls. After sowing the lime, if you examine on the following morning, you will find large drops of ley on each blade, made by the dew, ready to be tilted upon the elevation of these blades into the boot around the wheat stalk. This ley, formed by the dew and lime, is sufficiently strong to burn off the tender parts of the fly and will prevent them from doing further harm. This I know, since I have seen it."

* * * On last April I put a bushel of unslacked lime in a barrel to which I applied 12 or 15 gallons of water. After stirring the water and lime well together I staked off a piece of ground, four rods square, and with a common watering-pot literally white-washed

the entire square. Upon this space the wheat was perfect, whilst that which surrounded it was seriously injured by the fly. Therefore I have more confidence in an application made in the month of April than in November, and if we can have this made in a *thorough* manner, I do not apprehend from the fly the slightest injury."

Thus far Mr. Cochran. But I applied it in November with the result I have stated above.

The communication of Mr. Tate of Augusta Co., *Farmers' Register*, vols. 2 and 3, p. 252, gives the same theory of operation. His experiments were made on wheat "when it begins to shoot." Your obt' servant,

Chesterfield Co., Va., Sept 10, 1873.

Wine Making—Superior Wheats.

Editors American Farmer :

On 4th inst., I received the Clipper Steel Plough; am very much pleased with it, and assure you I am much obliged for your kind and prompt attention.

The communication of "Laborer," in the July number of the Farmer, I consider *very valuable* to all engaged in the vine culture and wine making. I have a very small vineyard, less than one-eighth of an acre, from which I have sixty-one gallons of juice, and which I hope and think will make wine of a superior quality. Besides, I sold a few grapes, gave to my neighbors and friends a considerable quantity, and my family have used them very profusely, and have now on the vines enough unmaturing grapes sufficient for the use of my family for several weeks. I finished expressing the juice on 4th inst., and put it in casks; the fermentation is going on very nicely, as well as I could wish. If I were a young man I certainly would have not less than five or ten acres in grapes, as in my opinion, if properly attended to, it would be more profitable than the cultivation of cotton or tobacco in any locality in the least adapted to it.

Nov. 20, 1872, I sowed two quarts each of Fultz and Tappahannock wheat in my garden; reaped June 25th ult.; threshed July 15th ult.—the yield of Fultz was 2½ bushels; of Tappahannock 2 bushels; each very excellent quality.

The Fultz fell or lodged very much, if it had not the yield would have been larger—had to mow some of it. The Tappahannock did not lodge. I think both would have yielded more if it had been sown earlier. I intend sowing what I have of each in land which I will have well prepared, and, if a favorable season for wheat, I doubt not the product will be very satisfactory. We have had heavy rains for some time past, which retarded very much a proper preparation of land. With kindest regards, I am

Very respectfully and truly,

A. T. JERKINS.

Alamance Co., N. C., Sept. 6, 1873.

Fultz Wheat—A substitute wanted for Wheat in a Rotation—the Western Granges.

Messrs. Editors of the *American Farmer*:

Gentlemen: I see in your last paper that the Fultz wheat can be had for \$2.25 per bushel. Herewith enclosed please find my check for \$25, and send the value in said wheat. From all the reports in the public prints, this wheat seems to have done well the present and past year—better than any other variety, if the reports can be relied on; but I must confess to very grave doubts about some of the statements which I have seen. I have tried all the best of the old and new varieties introduced since the war; have made liberal applications of standard fertilizers, on land as well adapted to wheat, and in as good condition as any in this section of the State. The result has been *failure as a rule, and success the exception*. I have no faith in the crop, and advise everybody to sow as little as possible, but continue in the old track myself, because I can't get through the winter with my stock without the straw and chaff, and because it fills a place in my rotation that no other crop will, known in this section. I have tried rye, and winter oats and barley, as substitutes, with still less satisfactory results, the oats being the best of the three; on all Southern exposures and land not disposed to spew, these succeed remarkably well, if sown from 15th August to 15th September, but there is the rub. Sometimes the seasons, and at others the demands of the tobacco crop render this impracticable. You cannot get into the corn land until it is rather late, and yet I think it is of the utmost importance that all land cultivated in a hoe crop should be sowed in small grain and grass in the fall, if the land is to be kept up. Spring oats, while they really extract less from the soil than any other crop, are nevertheless very destructive to land. This is due mainly to the fact that all the valuable grasses which vegetate during fall and winter are destroyed in sowing the oats, and the additional fact, that the oats being taken off in mid-summer, the land is exposed to the direct rays of the sun, which evaporates all the ammonia and carbonic acid gases which are brought down by the rain and generated in the soil by the decomposition of animal and vegetable remains. If you can discover a paying substitute for the wheat crop until luck changes, you will confer a great favor on this down-trodden section of the Confederacy.

I am surprised that the Farmer has taken so little notice of the *great ground swell in the West*, which threatens to overwhelm even Congress and the railroads. Let us know what you think of this *new movement*. I know your head is level on these subjects. Won't the Granges go very far towards answering Mr. N.'s question, "What shall we do?" By organization, co-operation and concert of action, much can be done to ameliorate the condition of the agricultural classes.

But how can we manage the women in a secret society? Hoping that you will give us your views on these subjects, I am, with great respect, very truly yours,

RICH'D V. GAINES.

Charlotte Co., Va., August 30, 1873.

The Vineyard.

Viticulture.

[The writers of the following remarks, on receiving the *American Farmer* for August, containing Gen. Giddings' translation of the main portions of Mr. Mares' pamphlet on the *Oidium*, prepared the following, the 6th of a series on Viticulture, which was being published in the N. C. State Agricultural Journal, a copy of which they forwarded us in advance of its publication in that paper.—The value of the suggestions made in the translation we published, together with the high authority of the author, are vouched for by Messrs. Labiaux & Clerc.—Eds. A. Far.]

As the readers of the State Agricultural Journal have been made aware of, we are expecting Dr. Planchon's visit to study the *American vines and grapes*, by order of the government of France, in the first days of September. After this distinguished botanist and wine-grower shall have left this for other regions, it shall be our province to disseminate his observations, and to speak of the *Phylloxera*, the *Oidium* and other points relating to our subject. In the meantime we request the State Agricultural Journal to copy from the last number of the *American Farmer* an article ably translated by Gen. L. Giddings, of an important pamphlet by Henri H. Mares, the eminent viticulturist of Hérault, on the *Oidium*. It is our fortune to know Mr. Mares personally, who, with Gaston Bazille and Dr. Planchon, constitute probably the most savant triumvirate in the science of viticulture through the whole world. As is stated in the referred to paper, the *Oidium* presents no other inconveniences, but a small outlay of money and a little extra labor; well, both these capitals are well invested, paying a good interest, in rendering the vine more vigorous and more abundant in fruit.

It may not be out of place to say a word here about *drought*, which curiously, is suggested to our mind by the late long wet season. A neighbor congratulated us, saying that the flooding rains must have done a *powerful good* to our vineyards! That he had feared that the August drought would have interfered with the growing of our vines, which he hoped would be a success, as our success will benefit the whole country, &c. Now we state: that from the beginning of December,

1866, till the end of December, 1867—thirteen months—not a drop of rain fell over a large portion of the South of France. Not an ear of corn, not a radish, not a grass blade was raised there in 1867. In the *Department of Gard*, all the wells, all the springs, were dried up. The fountain of Nîmes, so justly renowned, was, for the first time in history, drained, totally exhausted. The government ran a daily railroad train from Nîmes to Tarascon, to supply the former with drinking water, and semi-weekly trains for the washerwomen to wash their clothes in the Rhone. But the vines were *all right*, and the vintage was an excellent one.

Per contra, in 1863, 64, 65, 67 and 68, the snow fell so vigorously that the railroads were encumbered and had to suspend their operations for weeks. Yet the vine was not injured, and yielded well, while the hardy kind of fig trees and even the olive trees (of the varieties we have in our nurseries) did likewise.

Ergo, we need not apprehend, in this region, either the drought, the frost, the snow or the rain. All that is required in favor of the vine, is a long and not too tropical a summer, and that we surely have in this and adjoining States, and therefore, North Carolina and Virginia wines, soon to be brought in market, will undoubtedly surpass those of California, Missouri, Ohio and New York, now exhibited at Vienna. Yes, on account of our long and not too hot summers, our wines will be far superior in quality for table use, than the wines of the above named States, yet these show better at present than we do!

Concluding, we desire to say, that Mr. H. H. Mares is the largest wine-producer in the universe, (his average annual yield being 2,800,000 gallons,) and has the largest and finest cellars in France for still wines. His varieties of vines number nearly 500, out of which, however, he only grows five or six staples. Till later and truly yours,

LABIAUX & CLERC:

Ridgeway, N. C., August 26, 1873.

THE PHYLLOXERA.—There are considerable fears that this insect, which is spreading so rapidly through the wine-growing districts of France, will extend its ravages in this country, where it is said to have originated. As noticed in the letter above, the French government has sent an agent to this country to investigate its habits. A correspondent in Missouri writes, in *Colman's Rural*, that the roots of his plants appeared to be affected, and gives the following as his mode of treatment, and believes that an application or annual dressing, if necessary, of the mixture recommended, will go far in resisting the increase and propagation of the Phylloxera, or any other parasite inhabiting the soil.

Eighteen years experience with leached ashes, as applied in horticulture, as well as vine culture, having more than satisfied him of the correctness of this conclusion:—

"The treatment consisted of excision of all the rootlets so infested, and a mixture of air-slacked lime, sulphur and leached ashes sprinkled over the remaining roots exposed, and thoroughly incorporated with the soil approximating to the surface roots; also a liberal amount at the base of the trunk, and a sprinkling over the ground in the vicinity. The result has proved more than pleasing so far, for I never saw Catawba vines in a more vigorous condition; and upon the base of the canes of the new issues as well as the lower portion of the old canes, below the snow-line, are many as beautiful bunch specimens as I ever saw of that class of grapes."

A letter from France, published in the *Mass. Ploughman*, gives the following item, which may be of interest to our American farmers:—

AGRICULTURE IN FRANCE.—A traveller says—"We see no pastures anywhere. If the cows are not tethered in the grass-fields, they have an attendant, often a very old woman, who spends the remnant of her days in that service. Here and there in the valley are small flocks of Merino sheep, always in the care of a shepherd and dogs. It was interesting to see the movements of the dogs, one each side of the flock, and both constantly trotting up and down keeping the flock close together. If a sheep strayed only a foot or two, it was instantly driven back. The dogs must have remarkable endurance to keep thus in motion all day, and that at not a slow pace. At the close of the day the flock follows the shepherd out of the field, very naturally suggesting the tenth chapter of John: 'He goeth before them and sheep follow him, for they know his voice.'"

SOILING.—FOOD FROM AN ACRE.—J. R. B., in the *Practical Farmer*, gives an account of what he produced from two and a half acres of land put in first-rate order, and used for soiling and root-growing. The land was used from August 1st, 1871, to the end of the season of 1872. The corn-fodder, green rye, (for autumn use,) and white mustard, furnished food for twenty-five cows for two months, and for thirty-five cows and two oxen for one month. In addition to this he raised 840 bushels of round turnips, the same quantity of beets, and 250 bushels of rutabagas. When dairymen learn to produce such an amount of fodder from an acre, a fifty acre farm will carry as many cows as 200 acres under the wasteful system of three to four acres to pasture a cow. If dairymen would study the best method, supporting more cows on their small farms instead of buying more land to be spoiled by half tillage, they would make an improvement in the right direction.

The Dairy.

A New York Dairy Farm.

The N. Y. Live Stock and Fireside Journal contains a very interesting report of a visit, by A. B. Allen, Esq., a gentleman well known to the agriculturists of this country, to the dairy farm of Mr. W. Crozier, an intelligent and enterprising Scotch farmer, who has settled on a farm of 1100 acres on Long Island, about 40 miles east of the city of New York. The place was very unpromising in 1868, when Mr. Crozier happened to make a survey of it; he thought, however, that something profitable could be made out of it and accordingly obtained a lease thereof, and went to work with a will. A part of this tract had long been cultivated on the skinning system, while other portions had been turned out as nearly worthless, and suffered to be overgrown with bushes, briars and weeds. Now mark the change:

When Mr. C. took hold of it, this farm supported only 6 cows, 2 mules, 2 pair of horses and 800 Merino sheep. Not fancying any of these animals, they were disposed of in the course of a few months, and replaced with five superior Ayrshire cows and a bull, the same number of thorough-bred Jerseys, 6 Cotswold sheep and 4 Clydesdale horses, which the whole tract was scarcely able to carry the first year of Mr. Crozier's occupying it. The animals now deriving their support from it are 31 head of superior thorough-bred Jersey breeding cows, 33 head of equally well-bred Ayrshires, (not including their numerous calves of this year and some yearlings); 46 horses, most of which are of the Clydesdale breed; 110 sheep, Cotswolds and Southdowns; 6 Cashmere goats; 116 Berkshire swine; and an unaccountable number of magnificent bronze turkeys, Brahma, Black Spanish and Game fowls; Bremen geese, and Aylesbury and Rouen ducks; to say nothing of a sheep and cattle dog or two, and some fine Scotch terriers.

Mr. Crozier's management of his farm for the past five years, enables it to support at present *more than ten times* the live stock that it could when he first came into possession. From September, 1868, till April, 1869, he busied himself with moving all small division fences, and throwing the surface into large fields; cutting up bushes, briars and weeds; erecting a few plain convenient buildings, and procuring the best agricultural implements for his purposes that he could find in this country, or import from Great Britain. Large muck beds abound here on the bay shore of the Neck, hitherto almost untouched. As much of this as was proper to compost with the small quantity of stable manure

made the first winter, was dug and carted into the barn-yard; but these materials were not sufficient for the crop Mr. Crozier wished to raise the first season; he therefore sent to the city of New York for additional stable manure, and some commercial fertilizers, which were cheaply transported thence by sail vessel, and landed at a dock on the farm. Judiciously applying all these fertilizers, the crops were greatly increased the first year; and as all henceforth were to be consumed on the farm, an additional number of animals could be supported. And thus it has followed to the present time—the more manure the larger the crops and the greater the number of animals required to consume them—which again increases the manure heaps, and so it may go on indefinitely, the farm now being quite independent of foreign fertilizers.

Mr. Crozier gets 70 cents per lb., in the city of New York, for all the butter he can make the year round. Allowing each cow to produce 365 lbs. per annum, she earns \$255.50, besides bringing a calf worth, the moment it is dropped, from \$50 to \$100. Some are worth over \$150; for, recollect, every cow in his herd is either *pure Jersey* or *pure Ayrshire*, and that each animal is among the best of its kind. Taking the cows at an average of \$250 each, and cutting down the butter product, if one pleases, to only \$200, it will be seen that the keeping up of such a herd is a highly profitable investment. I say nothing as to the value of the skimmed milk and the butter-milk; but as calves are brought up after the first month on the former, and as the latter is fed to choice Berkshire pigs, that sell for a high price, these pass as no small items in the account of profits.

Mr. Crozier calculates that the manure dropped from these cows is worth more than the labor expended in taking care of them and milking, for, with this manure alone, he is annually enriching his land; and fields that a few years ago would not summer a cow on every five acres, will now summer one on a single acre. Surely here is great gain.

Mr. Crozier thinks Jersey and Guernsey milk too rich for butter; this is why he mixes it half-and-half with Ayrshire, which is not so rich. The cows are from choice dairy breeds; and they are picked animals from these. Then, perhaps, what is equally important, they are full fed from steamed food in the winter, and are soiled night and morning in addition to their pasturage in summer.

Early in May Mr. Crozier commences soiling his cows in the morning in their stalls with as much fresh cut growing rye as they will eat, after which they are milked and turned into pasture. About 5 P. M. they are driven up from the pasture, put into their stalls, and again fed with green rye and milked. After this, they are once more turned to pasture, where they remain till the next morning, then fed, milked and again turned out. This is the daily course till November.

Before the rye becomes too large and tough for the cows to relish it well, clover and orchard grass are in season for soiling. These are followed by lucerne, white vetches and oats, grown sown together; cabbage, Indian corn, turnips and beets—the three latter lasting all winter to the following May. By this system it is seen that the cows have all they desire to eat of what is equivalent to green succulent food all the year round. Besides the above, a large trough stands in the cow pasture into which 100 lbs. of oil meal are daily placed, with water sufficient to make it into a thin gruel. This is for about 60 cows, and they have access to it at will when in pasture. Three or four at a time march up very deliberately to this trough, take a slight sip of the oil meal gruel, lick their chops, and then go to feeding again in the pasture. This each cow does several times in the day. As they are accustomed to it, they only take a small quantity at a time, and every one seems to get its due share. Strange cows must be gradually broken to this gruel, or they might take so much at first as to physic them. I know of nothing equal to a small daily ration of oil meal to keep the bowels in good order, of horses, cattle, sheep and swine, and it also causes them to digest and relish their other food much better.

Some might think that the above is a costly and extravagant way of keeping cows. But the contrary is the fact; for with such food the stock are always in the finest condition, and they give a much greater quantity of a better quality of milk, which makes also a superior quality of butter, selling at an extra high price; and in addition to this the manure is considerably richer, and of course adds greater fertility to the land. Thus if the feed can be called lavish, so on the other hand are the products returned from it. I am satisfied, from a minute personal inspection of Mr. Crozier's whole management, that more money can be made by his system of cultivation and feeding than by that usually followed by our farmers, except, perhaps, on very fertile land, and where labor is extra dear; and I am not sure that even then the latter would be the most profitable.

It is an admirable sight for the lover of fine stock to see this splendid herd of pure bred cows brought up from their pasture in the morning or evening to be milked and soiled. The stalls are in a single row, stretching nearly the whole length of the cow house. Into these each cow deliberately marches in Indian file, rarely mistaking her own, and without guidance thrusts her head into the open stanchion, where she is instantly fastened by the attendant. A two-horse wagon, loaded with fresh-cut grass, is already driven on to the covered floor at the end of the stable, from which the food is rapidly distributed. What a pleasure it was for me to stand by and see these beautiful animals, sixty or so in number, then feed on this fragrant grass, and what a high gratification to mark pailful after pailful of rich, foamy milk poured

out from their ample udders, and borne off to the dairy house! We could not but envy Mr. Crozier this daily happiness, and wish that every farmer in our goodly land would imitate his laudable example, so far as his location and means allow, of breeding choice dairy stock, and above all, cultivating a proper succession of crops for feeding it.

One of the most important products raised for soiling is Orchard Grass. Mr. Allen says he has for 30 years past, both by precept and example, been recommending to farmers to cultivate more extensively this grass—and adds:—Now go and see what Mr. Crozier is doing. He has about 170 acres of it, and although it is not growing on his best cultivated fields, yet on the day I examined it, June 13th, it stood from 37 to 50 inches high, and would make from 2 to 2½ tons of well cured hay per acre—perhaps some of it might turn out nearly 3 tons. Recollect this is an uncommonly late season, fully seven to ten days later than our average. I have often seen orchard grass in this climate as forward the first week in June. The season from early in May till the last of July was excessively dry, only a few inches of rain falling during this time, and the grain crops about here generally cut down from one-half to only one-third of an average. For days previous, Mr. Crozier had been cutting this for soiling; most of what was then standing he commenced mowing for hay two or three days afterwards. Cut orchard grass just as soon as it begins to blossom, and it is nearly equal to the best of timothy, and far superior to such as is left growing till a portion of the seed ripens. On the 2d of August Mr. Crozier wrote me as follows:

"What should I have done were it not for the orchard grass this season? *Without it my barns would have been comparatively empty*, like those of my neighbors and friends. Then what could I do with my stock? It is not fit for beef, and I should not have had half hay enough to winter it. Now with the orchard grass I have fodder enough, and to spare."

The great merit of orchard grass is, that it comes forward very early and rapidly, and gets its growth before any drought common to our climate can affect it. Thus it ensures the dairyman an abundance of rich grass till July, and hay through the winter. By this time clover is ready to be cut, then follow oats and white vetches, grown mixed, and then Indian corn as soon as tasseled. I do not repeat the other crops grown by Mr. Crozier, as they are more uncommon among the generality of our farmers. I can only add that his whole system of soiling can be easily practiced by any one disposed, and if generally done, would add millions to the wealth of the country.

Mr. Crozier is no fancy farmer, but conducts all his operations with an eye to profit. The buildings are plain, commodious and substantial. His steam fodder apparatus, the dairy house, the method of setting the milk, churning, working and doing up the butter

for market, are such, simply, as have often been described in most of the agricultural papers of the country; it is therefore unnecessary to go into further details respecting them in this article. Any one with moderate means to start with, and near a good market, can go and do just what he is doing, provided he will exercise the same skill, perseverance and industry that Mr. Crozier has here for the past five years.

He keeps one powerful yoke of grade Short-horn cattle, the pair weighing about 4000 lbs. The rest of the farm work is done by Clydesdale mares, each of which usually bring him annually a valuable foal. They are the finest and best bred of their kind that I have yet seen in this country—quite different from the great clumsy overgrown beasts that have sometimes been imported. These mares stand from 16 to 16½ hands high, and weigh from 1400 to 1500 lbs. The stallions are 16½ to 17 hands high, and weigh 1600 to 1700 lbs. They have fine heads, arched necks and strong limbs. They have good action, walk well, trot from six to seven miles per hour along a level road, are kind in disposition, don't jerk and twist at a dead pull, and are true and honest workers.

With the Scotch plough he soon makes a deep tilth of every field he brings into cultivation, turning every furrow, however long it may run, as straight as a gun barrel. With the chain harrow he gives the finest possible finish to the soil, and leaves it like a nicely hand-raked garden.

Would that bonny Scotland could send us more farmers like Mr. Crozier, and each one with an admirable wife like his to superintend the dairy and goodly household.

[The great advantage of sowing orchard grass seed, with clover, in the spring, has always been strenuously urged in the *American Farmer*, and we are glad to be sustained by such good authorities.—*Eds. Am. Far.*]

BONE DUST.—An intelligent English farmer, writing to the *Mark Lane Express*, states his experience with bone dust and superphosphate made from bones. He believes bone to be the "cream-of-cream" as manure. On pasture land in Cheshire, where he lived seven years, he found it indispensable. In Wiltshire he found it developed the best grasses, and produced a superior herbage; it produced the best roots, and on the wheat crop, in the shape of superphosphate, it secured a good stand. He used \$2,500 worth of it, and believes it to be the best worth a farmer's attention of any outside manure. He found on clay lands, impregnated with oxide of iron, that until the land had been limed the bone had no effect, but as soon as lime was applied bone was used with success. Finally, on experimenting with it on sandy soil, he found it perfectly useless, and even in quantities of 700 pounds per acre, applied to old pastures or young grass lands, it had no perceptible effect during many years.

Live Stock.

Cattle Disease.

During a visit to the country a few weeks ago, a friend with whom we stopped informed us that several of his cows had been separated from his herd, on account of disease, which he called lung fever—they were drooping in their spirits and had a cough, which evidently indicated the nature of the disease. The Missouri Agr. Report of 1868, contains a description of the Texas Cattle Disease, which, however, does not accord to much extent with that manifested in the cows of our friend. We will, however, copy that part of the Report alluded to, as the information may be useful to our herdsmen and dairymen:—

"With regard to the external and obvious symptoms, the first thing which we observe is, that the animal drops its head below the level of the back; next, (and this is one of the most important points,) that there is a peculiar expression of the eye, which I, at least, have never noticed in any other form of disease whatever, and which I call a stupid stare. Gentlemen who are accustomed to cattle, know very well that there is a staring eye, which is associated with wildness, when the animal is terrified, but this to which I refer differs entirely from that. The next point is, roughness of the coat, though this symptom has not always been found in our experience, for some of the sickest animals that I have ever seen have had smooth coats. But generally speaking, this rough coat is one of the characteristics of the disease.

"The next noticeable point is, the appearance of the urine, which is almost black. A person without any particular experience, regarding this symptom, would say it contained blood, but on microscopical examination it is found not to be blood, but only coloring matter of the blood. This is, also, however, a rather uncertain symptom. It is true we do find it in a great majority of cases, but in others, and among the sickest animals I have seen, the urine has been perfectly clear and limpid.

"The next symptoms are the staggering gait and weakness of the limbs. It seems as though the animals had been attacked with paralysis of the muscles of the extremities, so that when they attempt to go forward they tremble and present an appearance as if walking over glare ice. These symptoms are almost unmistakable, as they have never been met with to the same extent, and presented in the same manner, in any other previous disease.

"Again, the spine, in most cases, is arched. Ineffectual efforts are made to dung. This symptom is not always present, but in almost

every case this arched back is one of the most positive external characteristics of the disease.

"Then comes drooling from the corners of the lips. We often see that, to be sure, in healthy cattle, but the peculiarity of the drooling which characterizes this disease is, that the drooled matter is filled with air bubbles, and may be described as a 'frothy' drool. Sometimes blood is seen in the stools, but this is very rare, and it can hardly be considered a characteristic of the disease.

"Sometimes the bowels are constipated and sometimes very loose, so there is no certain rule as regards that. In every case, however, the bowels are in an unnatural condition.

"We sometimes see mucus discharged from the nose, which is rather an uncommon indication.

"A still less common symptom is a yellowish rheum issuing from the eyes. I have seen that occasionally, but it has happened very rarely in our experience."

Mr. John Zoll, of St. Louis County, Mo., a stock-raiser of 25 years experience, in a communication to Colman's Rural, says that this description of the disease is perfectly correct, and his remedy is to give the animal two quarts of strong brine when first attacked by the disease; this can be done by the drenching process. This is to be repeated, if necessary, two or three times. One dose is, however, usually sufficient. Mr. Z. says his experience has cost him over \$1,000, and he gives the above remedy with the hope that it will prove to be equally as efficacious with others, as it has with him in the treatment and cure of this disease. His experience has convinced him that cattle properly yarded at night are rarely attacked, while those left out, that eat grass early in the morning while the dew is upon it, are more apt to get sick.

HOG CHOLERA.—As this is the season to expect the Hog cholera, it is necessary to say something to our readers upon the subject.

A veterinary correspondent of the Chicago Tribune advises the means of prevention of the disease, by keeping the hog pens as clean as the nature of the case will admit; to arrange them so as to give the pigs shade—and if possible access to pure water. Any kind of food that is in a semi-decomposing state, or that is so much prepared for digestion or so destitute of stimulus, as to weaken the digestive organs for want of exercise, should be avoided. Where an apple or peach orchard is on the premises, as it ought to be on every farm, it will be a very good preventive against hog cholera to make arrangements by which the pigs can be allowed to have access to the same, and to pick up all the unripe apples or peaches that fall prematurely from the trees, for then the pigs will get all the acid they need, and will, moreover, destroy the curculio brood which caused the fruit to fall from the trees before it had ripened.

Where the disease, notwithstanding all precautions, comes to an outbreak, an emetic,

consisting of a few grains of powdered white hellebore, or veratrum album, given as soon as the first indications of sickness make their appearance, is frequently of great service by checking the morbid process. The dose is from 2 to 20 grains, according to the age and size of the animal, and may be repeated every half or three-quarters of an hour till the desired effect (vomiting) has taken place. The best mode of giving is to strew on the surface of a small quantity of milk, or to mix it with a piece of a boiled potato—either of which will be taken voluntarily by the patients, unless the disease has advanced too far already, so that any appetite is wanting; in which case it may be mixed with a little flour and water, and be administered in the form of small, round pills. After the patient has vomited, the further treatment has to be according to circumstances. In most cases, a slight physic, of a few grains of calomel—2 to 20 grains a dose—mixed with a piece of a boiled potato, or made into pills with a little flour and water, will be all that is needed. Drenches should not be given under any circumstances, for the drenching itself is frequently much more dangerous than the disease against which it is intended to operate. The food, if the sick animal should desire to eat, should be easily digestible, and be given only in small quantities. Admixing a few grains of carboic acid with each meal may also have very good results—at least deserves a trial. In those cases in which the disease is very severe, or in which the morbid process has already effected important organic changes in the animal organism, a treatment is not any more advisable, for the patients, even if the same should survive, will never fully recover, but will become stunted, and will never again make such use of their food as is profitable to their owner; therefore the latter, as a general rule, will find it to his interest to dispose of such patients, in one way or another, as soon as practicable—to convert them, for instance, into soap grease.

Great Sale of the New York Mills Short-Horns.

The following account of this remarkable sale was written by a friend of the *American Farmer* who was present:—

The sale of short-horn cattle, which took place on the farm of the Hon. Samuel Campbell, at New York Mills, near Utica, N. Y., Sept. 10, was in many respects one of the most astonishingly successful sales ever held in this or any other country. It was the rare good fortune of Mr. Campbell to have in his possession all the pure Duchess cattle in the world, and the fame of this justly celebrated breed, and the intelligence of the coming sale, served to attract a large number of bidders from all sections of this country, and from abroad. Among others who had been drawn to the sale was Lord Skelmersdale, a well known English nobleman, celebrated for the great interest he takes in stock raising, and

who was, as may be seen below, a liberal purchaser.

The herd of cattle sold consisted of 109 head, short-horns all, but of varying ages, conditions and powers. Of these 109 head, 15 were Duchess cattle, 12 cows and 3 bulls, all descended from Duchess '66, imported from the celebrated Thos. Bates of England, by whom she was bred. The two other cows of this breed imported left no female progeny, one indeed proving barren, we believe, and the other having had a bull-calf only.

Of course the greatest interest centred on the sale of this herd of Duchess cattle, as will be seen from the prices given below.

The highest price paid was \$40,600, for which a 7-year-old Duchess cow was sold to R. P. Davis, Gloucestershire, England. The next highest price was \$35,000 paid for a 6-year-old cow by Mr. Berwick, of England. Lord Skemmersdale paid \$30,000 for a 3-year-old cow, jumping from \$20,000 to \$25,000 at one time, in his anxiety to distance all other bidders and possess himself of the prize. Then a 5-month's heifer calf was knocked down for \$27,000 to Mr. A. J. Alexander, of Kentucky, brother of the raiser of Lexington. Next came a one-year old cow, which was sold for \$25,000 to E. J. Bedford & Megibben, of Kentucky. Mr. A. J. Alexander also purchased a year old cow for \$19,000; and Mr. Halford, of England, paid \$15,600 for a two-year old. A 10 months' heifer was sold for \$15,300 to Mr. Berwick, of England; and a 6-year old cow brought \$15,000, paid by Mr. A. B. Conger, of Waldberg, N. Y. Then a six months' heifer calf was knocked down for \$10,000 to Mr. Berwick; and another cow in calf, but not considered sound, was sold for \$5700 to Mr. A. B. Conger. The sale of a barren Duchess cow for \$450 to Mr. C. F. Wadsworth, concluded the sales of Duchess cows, which, 12 in number, realized \$230,250, or \$19,937.50 average price per cow. Then three bulls of the same breed were sold. The first one, 2d Duke of Oneida, brought \$12,000, which price was paid by Megibben, of Kentucky, the second, 4th Duke of Oneida, was sold for \$7600 to A. B. Cornell, of Ithaca, N. Y., and the third bull, 7th Duke of Oneida, was knocked down for \$4000 to A. W. Griswold, of Morrisville, Vt. The three bulls realized \$23,600, an average price of \$7,866.66. The Duchess cattle, 15 head, thus brought \$262,850, an average price of \$17,523.33 per animal. The whole herd sold, numbered, as we have said, 109 head, of which but 15 were Duchess cattle, yet these 15 brought more than two-thirds of the amount realized from the sale of the whole herd, \$380,000, the price paid, and the men who paid them, constitute the strongest testimony to the excellence of the Duchess cattle that could be given, and prove how wonderfully remunerative cattle raising can be made in the right hands. They also show the marked advance of this industry among us, as the time is not many years gone by when \$10,000 would have been paid for a cow only in the visions of a dreamy drover.

Besides the Duchesses, there were seven Oxfords, cows and heifers, which averaged \$4,514. Seventy-three other females averaged \$1,080, and the seventeen bulls and bull calves averaged \$1,836. The Country Gentleman, in its report of the sale, says that "if we throw out of account the entire list of Duchesses and Oxfords, both male and female, the average on the remainder of the herd will still exceed that of any previous sale of Short-Horns ever held in the United States, and this notwithstanding the low prices at which the bulls were sold, not from lack of merit, but because they were not in demand among the audience which attended," the average of the sale without the Duchesses and Oxfords being for both sexes \$979. The total of the sale was \$380,490.

Horticulture.

A Beautiful Estate near Baltimore.

We spent an hour or two recently at the farm of Mr. Wm. C. Wilson, a few miles from this city, whither we were called by a desire to look at his Jersey cattle, of which race he has long been a devoted and successful breeder. We found the handsome and very superior cows in the best of order, and doing their best in the fields of orchard grass, which for many years has on this farm been mainly relied upon both for hay and pasturage; another proof to that already advanced in the description of Mr. Crozier's farm, of the great value of this grass.

The farm of Mr. Wilson is one of the most handsomely situated around Baltimore, and is well known to persons who drive for pleasure on the well made Charles street Avenue, by the carefully kept Osage hedge which surrounds the entire premises. It is probably, however, not known to many, except to those whose business or particular tastes incline them to make themselves acquainted with the localities of such collections, that this place contains one of the most extensive, varied and valuable assortments of ornamental trees and shrubbery to be found anywhere in this section of the country, besides borders and beds of the choicest flowering plants, and almost numberless varieties of fruits.

Some twenty years ago, or more, Mr. Wilson began to make his plantations of fruit and ornamental trees, and nothing new or rare was offered but he became the purchaser of specimens. These trees and plants, either

grouped together or standing alone, have grown finely, and the collection now contains material enough to keep a lover of Nature's productions in this line busy for a day in examining them. The Evergreens are particularly fine, and, growing in a rich soil, tower far upwards, symmetrical, luxurious, and grand. Some of the handsomest specimens of which we know of the Norway Spruce, the American Arbor Vitæ, the Hemlock Spruce and the European Silver Fir, are here to be seen; and a magnificent Cedar of Lebanon, in unimpaired dignity, seems to deserve the regal place always accorded it. The rarer evergreens are everywhere scattered about, and there are choice and well arranged groups of Box, Mahonia, Aucuba, Euonymus, &c.

In deciduous trees special attention has been paid to making a collection of such as have curious foliage, either variegated, colored or weeping. While many of the finer trees stand as individual specimens, others are grouped together by families, and we particularly noticed such assemblages of the Maples, Beeches, Magnolias, Lindens, Oaks, &c. Of particular interest are the purple-leaved and cut-leaved Beeches, whilst a specimen of the Weeping Beech is more graceful and more marked in its character than any we have ever seen. Amongst many others worthy of note are fine grown samples of the Weeping Cut-leaved Birch, the Catalpa Bungei, the Japan Judas Trees, the Willow Oak, the Ringlet Willow, the Virgilia Lutea, the Salisburia, or Japan Ginkgo, and the Weeping Large-leaved Linden, whilst of the deciduous shrubs the space at our disposal would scarce allow of a catalogue-like list.

Extensive borders also are filled with roses and herbaceous plants. There is one bed, some 30 feet or more in diameter, entirely filled with herbaceous peonias, comprising one hundred and twenty-five varieties, and frequently showing at one time a thousand flowers. A similar bed, of less size, is filled with Tree peonias. These floral displays at the season of their greatest effect are the admiration of visitors who come miles to view them.

Mr. Wilson is an enthusiastic fruit grower, and his collections of apples, pears and grapes include everything that is good of the old, whilst he is also continually testing the new. As the experience of twenty years in raising

pears, he gave us the following list as a choice selection adapted to his soil and situation:—Beurre Giffard, (if not allowed to get too ripe on the tree,) Bloodgood, Bartlett, Manning's Elizabeth, Tyson, Beurre Bosc, Seckel, Beurre d'Anjou, Lawrence.

Planting Orchards.

Our readers know how persistently we recommend the planting of orchards on the farm, not only as a source of revenue from the sale of their products, but also from considerations of the health and comfort to be derived by the family from the succession of fruits obtainable from even a small but well-assorted collection of trees. To aid the inexperienced, and to serve as reminders to those who are apt to be indifferent or dilatory in this work, we are accustomed at every planting season to offer some advice upon this subject. We have already recommended our readers to prepare their lists of varieties and forward them promptly to the nurserymen from whom they purpose obtaining their trees. If this has not been done already, lose no time now in making up your lists, and sending them to some one or other of the responsible establishments whose cards are to be found in our advertising supplement. For lists recommended for this section, see *American Farmer* for March of this year.

The Soil for an orchard should be in good condition, and especially well drained. Any soil in which water stagnates is unfit to plant trees in. If the ground has been occupied by a hoed crop the season previous to setting out the trees, it will be an advantage. Of greater utility still will it be to have the orchard deeply ploughed and subsoiled, both the season previous and just before planting, and repeatedly harrowed to bring the whole into a fine tilth. Where the ground is not naturally fertile enough, some fertilizer must be used; there is nothing better than good barnyard manure, well rotted, or a thoroughly decomposed compost; and nothing worse than green, fresh manures.

Preparing to Plant.—The old-fashioned mode of digging holes by hand has in large orchards been generally abandoned, and the mellowing of the ground by frequent ploughings and harrowings renders the setting of the trees anywhere in the friable soil an easy operation, but where the number of trees to be set out is comparatively few it will be as well to have good sized holes dug, the bottoms filled with mellow surface soil, and the sides wide enough apart to admit of the roots being spread out in their natural position. As a rule, plant young trees. It is no selfish

motive that induces nurserymen to recommend this. Young trees are much more likely to survive transplanting, and grow off finely at once; they can be better trained at your will, make more symmetrical trees, and cost less.

Heeling in.—As soon as the trees are received, if you are not ready to plant, unpack them and place the roots in a leaning position in a trench and fill in around them with mellow earth, pressing it down so as to entirely occupy all the space between the fibres. This will keep the trees safe until you are ready to plant, even if that be not until the following spring, provided the trench is so situated as to be well drained.

Pruning.—Before planting, cut off with a sharp knife all the bruised or broken roots, and cut back all the branches at least one-half, and better even more. This tends to preserve a balance between the roots and the head.

Do not set your trees when the ground is wet. Wait until it crumbles when pressed in the hand or struck with the back of the spade. Do not put fresh manure into the holes. A handful of wood ashes and bone-dust will do no harm, but undecomposed manure will inevitably produce disease.

Planting.—In planting, place the tree in the tree in the hole provided for it, not deeper than it stood in the nursery, separate and arrange in their proper position all the roots, not allowing them to cross each other or to become matted together. Some persons dip the roots in a puddle of mud before setting, but we never resort to this. Fill in around the roots the finest earth, taking care to put in no lumps or stones, and as you fill in give a gentle shaking motion to the tree, so that the particles of earth will find their way into every interstice. As soon as the roots are covered, press the dirt down firmly with the feet. You cannot press too hard, after the roots are sufficiently covered to prevent bruising or breaking by the pressure.

Do not conclude from what we say about putting in a hole, that the tree is to be planted deep. This is a great mistake. A large hole filled with mellow dirt, or a field, "all one big hole," is a good thing as allowing the penetration and extension of roots; but *plant shallow*. The feeding rootlets of the trees are near the surface, the deeper-reaching roots are for support.

Mulching.—After planting, mulch your trees. Any coarse stuff, corn stalks, salt hay, half rotted straw, leaves, even *stones*, will answer. In winter this prevents heaving by frosts; in summer it is a preventive against drought, lessening evaporation.

We never stake our trees in planting, and another advantage of young trees is that with them there is little necessity for it, especially in fall planting. A mound of earth raised all around the trunk, to the height of a foot or more, is recommended as giving a good support, as well as protection against attacks of mice.

Laying Out an Orchard.—In laying out an orchard, convenience as well as neatness require that it should be laid off symmetrically—the rows straight and parallel to each other. A number of expedients are resorted to to accomplish this, though in most cases repeated "sightings" is the mode generally in use. We copy from Thomas' excellent Fruit Culturist a description of a mode at once simple, yet effective, and which will save time and trouble in setting trees, making them range perfectly in all directions: "The first thing to do is to procure as many short pins or stakes, a few inches long, as there are to be trees in the orchard. These may be made by simply splitting short blocks or boards with an axe, say half an inch in diameter; or corn-cobs will answer a good purpose, and may be more easily seen. Then procure a strong cord, as long as one side of the orchard; if the orchard is very large, as long as each section may be, if necessary to divide it. Then, with a pole or other measure, mark off the distance of the trees on this line, striking a common brass pin through at each place for a tree, bending it around the cord so that it will not come out. Red yarn, sewed through and tied around the cord, would be more visible than pins; but the latter are quickly found if the workman measures the distance by pacing between them as he walks from one to the other. A new cord will stretch a little at first, but will soon cease to do it. The easiest way to mark the spaces on the cord is to wrap it around the ends of a board cut at the right length, so that every third coil shall be a place for the pin. Thus, if the board is five feet long, by marking every third coil at the end of the board, we obtain spaces of thirty feet. The field having been ploughed and fitted for planting, we are now ready for operation. Select a still day, so that the wind will not blow the cord out of place, and then stretch the line along one side of the field, at a suitable distance from the fence where the first row is to be. Make it as straight as possible, by drawing on it forcibly; a stout cord being better than a weak one on this account. If the land be tolerably level, twenty or thirty rods may be measured off at a time. Place flat stones or other heavy weights at intervals, to keep in position; if there is some wind, care will be necessary in making it perfectly straight before thus fixing it. Next, drive in one of the short pegs or sticks at each point marked by the pin already described. When this is done, one row will be marked. Then remove the line, and mark each end of the field at right angles to this in the same way. Lastly, mark the remaining side. Before marking both ends it is safest to stretch the line on the fourth side, that all may be accurately spaced. Next, to fill up this hollow square with the proper marks, stretch the line successively between corresponding sticks on the opposite side, and mark as before till the whole is completed. If the work has been carefully done, every stake will be found to range perfectly. Every cord

will stretch more or less, but if stretched so that the ends will come out even each time, which is attended with no difficulty, the rows will be perfect, as is shown in Fig. 1.

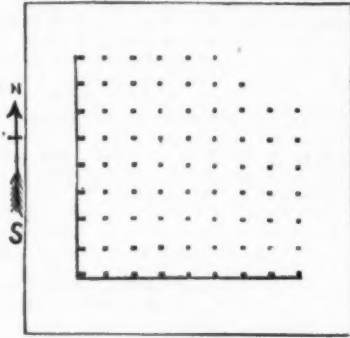


Fig. 1.

Next, take a strip of board, say about eight feet long and six inches wide, as shown in Fig. 2, and cut a notch in one side at the mid-



Fig. 2.

dle, just large enough to let in the stem of a tree. Bore a hole through each end, exactly at equal distances from this notch. Then, whenever a tree is to be planted, place the

middle notch around the peg, and thrust two other pegs through the holes at the ends. Then take up the board, leaving these two pegs, dig the hole, replace the board, and set the tree in the notch. Proceed in this way until the whole orchard is planted. It is obvious that the trees will stand precisely where the first pegs were placed, and will range in perfect rows. A large number or series of the pins may be set successively by the board, so that a number of workmen may be digging and planting at the same time. It is of no importance in what direction the board is placed, as the pin and the tree will occupy the same spot, as shown in Fig. 3, the row extending from *a* to *b*."



Fig. 3.

We also give (fig. 4,) a cut of a contrivance for holding a tree while filling in, a device easily provided and managed, which first appeared in Meehan's Gardener's Monthly. It consists of a piece of plank two feet long, one foot wide, and one foot thick, making the base, *d*, which rests on two pieces of plank or feet, *e*, run crosswise to the base. The arm, *a*, is about five feet long, and has a piece of leather string go round the tree, and fasten to a nail as a button, to hold the tree. A brace, *b*, stiffens the whole—*c* is the ground line.

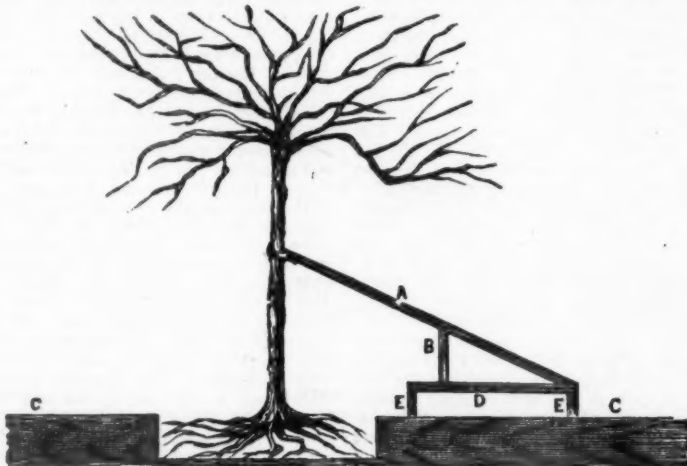


Fig. 4.

THE HUDSON CORN.—We have some very favorable reports of this corn, which was distributed in very small quantities by us in the spring. Its character for prolificacy seems

maintained, as we hear of stalks bearing as many as four ears, and measuring fourteen feet in height. We should be glad to hear from those who have tried it.

**The American Pomological Society's
Meeting at Boston.**

The twenty-fifth anniversary meeting of this society was held on the 10th September, at Boston. The attendance was large, embracing members from nearly all the States as well as from the British Colonies. As is customary, there was, during the meeting, an exhibition of fruits from all quarters, and the fall exhibition of flowers and plants of the Massachusetts Horticultural Society, taking place at the same time, the displays in the various halls were very handsome and interesting.

President Wilder delivered an address welcoming the members to Boston, the city where their society originated, and giving a brief history of its establishment, progress and achievements. The election of officers then took place. Col. Wilder was re-elected president, with a vice-president from each State; Thos. P. James, of Massachusetts, was re-elected treasurer, and Wm. C. Flagg, of Illinois, was made secretary. The vice-president for Delaware is Edward Tatnall; for Maryland, Wm. D. Brackenridge; for Virginia, G. F. B. Leighton; for W. Virginia, D. H. Strother; for District Columbia, W. Saunders; for North Carolina, W. R. Steele; for South Carolina, Dr. A. P. Wylie; for Georgia, Wm. Schley.

The exhibition of fruits in Horticultural Hall was very fine, Canada, Vermont, Massachusetts, New York, Connecticut, Pennsylvania, Maryland, Delaware, Virginia, Georgia, Michigan, Kansas, Utah, Nebraska, (the great American desert of a generation back,) and California, being represented. President Marshall P. Wilder, showed 404 kinds of named pears from his orchards. Messrs. Hovey & Co., of Boston, 325 kinds, and Messrs. Ellwanger & Barry, of Rochester, N. Y., 317 varieties. The show of fruits from Kansas and Nebraska was particularly handsome.

A large collection of plums from Canada seemed to indicate that the ravages of the curculio do not extend to that Dominion. Of especial interest was a collection of F. & L. Clapp, of Dorchester, Mass., of 86 varieties of seedling pears, raised by them, many of them giving great promise of excellence.

The show of the Massachusetts Horticultural Society at Music Hall was of the highest order, both as regards the variety of the collections as well as the skill evinced in their cultivation; though what most struck our attention was the judgment and taste displayed in the grouping of the varied productions of Flora upon the floor and along the sides of the hall, the well-arranged whole forming, when viewed together from the galleries, a scene brilliant and bewitching.

The Pomological Society determined that hereafter it would award no money premiums, it being conceded that so doing tended

to interfere with the operations of State or local societies, and the main society's principal object being more scientific and general than deciding between competing collections of specimens. This action does not interfere with the awards of the Wilder medals for meritorious objects. The usual discussion on varieties was had, the results of which will be given in the published report. The principal premiums were awarded as follows: For apples, from one State or society, 1st, to Nebraska, 190 varieties; 2d, to Kansas, 175 varieties; for largest collection by one individual, to J. M. Ross, of Ohio. For pears, 1st, for State or society, to Cambridge Horticultural Society, 133 varieties; 2d, Connecticut State Board of Agriculture, 123 varieties; 1st, for individual collection, to Ellwanger & Barry, 317 varieties, and 2d to Hovey & Co., Boston, 325 varieties. For peaches, State collections, 1st premium to Central Delaware Fruit Growers' Association; 2d, to Ontario Fruit Growers' Association; best private collection, David F. Myers, Bridgeville, Del. For plums, State collection, 1st premium to Ontario Fruit Growers' Association; 2d, to Deseret Agricultural and Manufacturing Society of Utah.

The society appointed its President, Col. Wilder, as its delegate to the Centennial Horticultural Association at Philadelphia, an account of the proceedings of which we will give in our next issue, want of space crowding it out of this. The society then adjourned to meet in Chicago in 1875.

Even a skeleton account of the transactions of the society would be incomplete without a reference to the informal and social features involved in the visits of the members, by invitation, to partake of the hospitalities of Messrs. Gray and Hunnewell, whose places in the suburbs of Boston are noted for their extent, beauty, and tasteful arrangement. This leads us to remark that no one who has lived in Md. but must be attracted by the neat and substantial manner in which the houses, gardens, roads and fences are put up and maintained in and around Boston. Masses of elegant flowers and shrubs are the surroundings of all, and almost in the midst of the city, the common, embracing nearly ninety acres, with towering elm trees along its broad avenues and smooth walks, has at its extreme end, from 15 to 20 acres of this area laid out as a flower garden, elegantly intersected with walks and lakes of water, all of which the people appear to enjoy with a quiet zest, which speaks well for their high civilization. The English sparrow has here found a new home; we saw flocks of from 50 to 100 of them, so tame that they hopped along among the passengers, who encouraged this familiarity by feeding them with seeds from their pockets and crumbs of bread. As a consequence of their presence, the trees are entirely free from insect enemies. While strolling in the suburbs of the city, we were forcibly struck with the number of pear trees standing on commons, unprotected by fences, the branches being borne down near to the

ground with luscious fruit, and we wondered how it was that bad boys and cows did not fall heir to them, as would be the case in some other cities we know, but on asking a resident how all this came about, he replied "that bad boys and cows were not permitted to run at large in that section of Uncle Sam's domain," and it would be well if in this respect other cities followed the example of Boston.

Vegetable Garden—Work for Oct.

Harvesting the crop of this year, and preparations for those of next spring, will mainly comprise the work in the garden at this season.

Asparagus should have the stalks cut off, and the bed should be hoed and receive a good dressing of manure. *Beets* and *Carrots* should be dug and put away before very hard frosts. Narrow trenches form the most simple contrivance for preserving them. These trenches are conveniently made about two feet wide and a foot and a half deep, and as long as may be necessary. When the roots are put in they are covered with earth, and on the approach of freezing weather a further covering of coarse manure is added. These trenches are more convenient for opening in winter than large pits, and they are also less liable to have their whole contents freeze, as is sometimes the case when they are opened by careless persons who neglect to properly cover them again. It is indispensable that the trenches should be so arranged as to have good drainage. *Cabbage* sown for spring use have to be set out in the cold frames. Set them deep, quite down to the leaves. *Cauliflowers* late about heading up may be advantageously removed to a cold frame, or a light cellar. Plant close together and the heads will continue to fill out. Continue to earth up *Celery*. *Lettuce* may be pricked out into cold frames, and that to stand out may be covered with straw or leaves—but this latter not too early. *Parsnips* and *Salsify* needed for winter use should be dug and stored away as recommended for other roots. Those not needed till spring are rather improved than hurt by remaining in the ground all winter.

Rhubarb.—New beds are better made now than in the spring, the buds starting very early into growth. Old plants may be divided and set out in good ground. Cultivate *Spinach* and *Sprouts* and keep clean. Gather *Squashes* before severe frosts, and store away after they have dried in a cool place. Dig *Sweet Potatoes* as soon as the vines are touched by frost. Dig in good weather, and let the tubers dry in the sun before putting away. They are well preserved in dry sand in barrels. *Turnips* may remain in the ground until severe weather, when they should be put into trenches and covered up. *Ruta Bagas* are hardiest of all the roots.

Artificial Fertilizers and their Application.

To the Editors of the *American Farmer*:

In the July number of the *American Farmer* we made some remarks respecting two fields of wheat, to which our attention had been directed, as to the effect of artificial manure thereon, and promised to note the difference between the manured and the unmanured portions at harvest. We have consulted the owners of the fields, and, although the grain is not threshed, both express themselves as well satisfied with the effect of the manure; and we most willingly record this fact, there having been some very hard things said in regard to artificial manures, and with sufficient reason, too, in most cases. It would, we think, be invidious to give the names of the firms of whom the manures in question were obtained. We may, however, say that both firms are of good standing, and advertise in this periodical.

One word as to the application of artificial fertilizers, our opinion founded on our practice, is this: that whenever convenient so to do it is by far the better way to apply with the fertilizer attachment to the Seed-drill. We do not like broad-casting manures; and ploughing phosphate fertilizers in we consider the most wasteful practice possible. We have in years gone by heard farmers speak of the drilling of seeds as "a new-fangled notion," and we once heard an old farmer tell his son—who had just commenced farming on his own account—that if he did not broad-cast his *ruta bagas* he need expect no more assistance from him. Adjoining the farm on which the young man was living was an experimental place, where might be seen crops of various kinds set, sowed and drilled, side by side, and although we are all doubtless a little more or less tainted with prejudice, and ought therefore to exercise charity towards all; yet the then modern system of putting the root-crop on bouts, or ridges, proved so superior in every respect to the old broad-cast practice, that the old farmer's views could be attributed to nothing but sheer obstinacy.

But to return to our subject, the wheat crop. We know the opinion is held by some that unless land be in good heart it will not pay to apply artificial manures; but of this we are not certain, having seen wheat, and also rye pass through the winter in tolerable condition where a little fertilizer had been applied with the seed, whilst in the same field where no fertilizer had been put on the crops were a pretty good failure.

It appears that wheat needs something where the land is not in very good heart, to give the plant a good start so that it may acquire strength and substance to stand the winter well. We would like to have the experience of some of your readers; we have not any too much knowledge upon this subject so far. Yours, very truly, N. F. F.

Meeting of Farmers at Druid Hill Park.

We noticed in the September number of the *Farmer*, that the *Farmers' Club of Washington County, Md.*, intended holding its September meeting at the beautiful Park near this city. In anticipation of this event, the *Farmers' Union of Baltimore County*, a new association, of whose existence and proceedings we have heretofore had occasion to speak, at its last meeting appointed a committee to meet their friends from abroad and welcome them to their county, in which the Druid Hill Park is located. This committee consisted of Messrs. Samuel M. Rankin, John D. Matthews, Dickinson Gorsuch, Edwin Scott, Dr. Moses Merryman, William Webster, Thomas C. Bosley, John Piersol, N. T. Hutchins, B. McLean Hardesty, George Jessup and John Mason. By appointment they assembled, on the morning of the 17th September, at the office of the *American Farmer*, and proceeded in a body to the Park. The excursionists, however, owing to the great number on the trains, were delayed in reaching the Park until about 1 P. M. It is estimated that some 1,200 persons, of whom a considerable proportion were ladies, arrived at the railroad depot, where they were met by a number of gentlemen of this city, natives of Washington county, and others, intending to take part in the proceedings of the day, and marched to the appointed spot in the Park selected for the meeting.

On arriving at the stand in the Park, the President, Mr. Isaac Motter, called the meeting to order, and after reading the proceedings of the last meeting, an adjournment was had for three-quarters of an hour, to lunch. On reassembling, Col. A. S. Stake, the orator of the day, stated that they were informed that a committee of the Baltimore county "*Farmers' Union*" was present, desirous of manifesting their friendship to the Washington county association, and of welcoming them to the city, and in behalf of his club Col. Stake extended to them a hearty welcome, adding that "they were glad to meet the Baltimore county farmers as friends and neighbors; they of the two counties were bound together by iron bands, and he hoped a fraternal spirit would always exist between them."

The President of the Baltimore County Club was then introduced by the editor of the *American Farmer* to the officers of the visiting association, and on behalf of his associates of the delegation, Mr. Rankin said he was most happy to be present at such an enthusiastic meeting, and tendered his most hearty congratulations on the success of the Washington Agricultural Club. He was proud to see so much interest manifested for agriculture evidenced by such a great assembly.

He asked the co-operation of the club, and tendered the co-operation and support of the Baltimore Co. Farmers' Union. Mr. Rankin also said he was glad to hear of these organizations of farmers; they were beneficial to the agricultural interests of the country, and the day is near at hand when farmers' clubs and unions will be in every county and State. He hoped that a grand State Farmers' Club would be organized to protect and further agricultural interests.

After these salutations were had, and the band which accompanied the club had played an air, Col. Stake, according to appointment, proceeded to deliver the address. We cannot do ourselves the pleasure at the present time of giving more than a very brief notice of the address, our pages at the date of its delivery being already preoccupied; we cannot, however, but express our hearty concurrence in nearly every sentence and sentiment uttered by the speaker. As we stated to Mr. Stake, at the close of his remarks, we had just sent to the printer our views, drawn forth by a request from one of our subscribers, upon the absorbing questions of the day now so extensively attracting the attention of the farmers of the whole country, and we are glad to find the very close concurrence of views entertained by him with those which we had thus prepared within briefer limits.

Col. S. said:

The universal interest now being manifested in the movement going on among the farmers in the West and South, and, to some extent, in the North, naturally brings up the subject I propose to discuss, which is, *Farmers' Clubs*, their purposes, their usefulness, and the mode or manner of conducting them. Of the purposes of the movements referred to I know but little, nor can I predict what is likely to result from them. There is danger of running into extremes, and thus neutralize all the good that should or would flow from such movements, and accordingly they are being watched with intense interest by all classes of society.

Associations are only good when confined to their legitimate purposes. They have existed from time immemorial, and are resorted to by people of every pursuit. The benefits resulting from them are apparent to all. They embrace almost every pursuit in life, and are participated in by the best citizens. They are, therefore, perfectly legitimate, right and harmless, so long as they are confined to the purposes for which they were instituted. When they lead to combinations, or strikes or corners, they rarely result in good to those who engage in them, and never to the public interest, but usually affect them injuriously. To avoid these extremes should be the end and aim of all good citizens, no matter if we do suffer some wrongs at the hands of others. Still, "two wrongs never make a right," and 'tis better to bear the ills we have than fly to those we know not of." Too much care and caution, therefore, cannot be exercised in this respect.

To associations formed for the mutual benefit of "the tillers of the soil," there can be no valid objection. The different religious denominations engage in them; in fact, all professions and creeds engage in them. Then why not the farmer? Where the purpose is to improve ourselves in the arts of our pursuit, they are highly beneficial. To meet together to discuss the best method of improving the condition of our soil; of eradicating filth; of applying manures or fertilizers; of economizing in machinery or labor; to hear the results of the experience of our neighbors, and finally, to enjoy social intercourse with each other, are within the scope of such associations. There are many who are disposed to go further. Such a course is, however, a dubious one. The laws of supply and demand will always regulate and control our sales and our purchases, and they cannot be modified to any appreciable extent. Let the main purpose of your organization be to elevate your class by the improvement not only of your soil, but of your minds; the improvement in quality as well as in quantity of your products; and thus you will, as you doubtless should, be one of the leading classes of society.

The usefulness of such associations will manifest itself in many respects. You will thus be enabled to compare your own experience with that of your neighbor, and should there be a difference in results, you have an opportunity to inquire into the cause of such difference, whether it is in the geological formation, in the chemical composition, or in the previous treatment of your soil, for it is not to be denied that these differences enter largely into the productive capacity of soils. Geological developments are not always well defined. Chemical analysis will not always lead you to correct conclusions, but your neighbor can invariably enlighten you as to his method of treatment, and the light thus obtained cannot fail to benefit you.

The purposes and usefulness of the farmers' clubs being established, the best mode or manner of conducting them is important. The membership should consist of all who desire to encourage "agricultural and horticultural pursuits, as well as that of husbandry in general," which will embrace *all*; for when the Almighty said, "For in the sweat of thy face thou shalt eat bread," all were included. It was not, as some suppose, confined to the tillers of the soil, or to the laborer, or to the mechanic. It embraces every vocation of life, and, since all are interested, none should be excluded. There are many persons not engaged in practical agricultural pursuits who yet feel a laudable pride in its success, and can aid us much by imparting their opinions, often drawn from close observation, to which we can apply our practical experience, and thus be benefitted. Admission should be restricted to nothing save character.

Colonel Stake then briefly adverted to the vast changes that had taken place and improvements made since he made his first visit to Baltimore.

Then the Baltimore and Ohio railroad was about to be commenced, and great expectations were indulged in as to the benefits we would derive from its completion, many, however, doubting its feasibility. Now we have not only that means of communication, but others to aid and assist us, and still we complain; perhaps it is in our nature. At that time no means of sustenance presented themselves to us but those which were drawn from the soil—wheat, rye, corn, oats, potatoes, &c. Now we find the bowels of the earth filled with inexhaustible stores of mineral wealth, which are daily being developed. Then our homespun fabrics protected and shielded us from the winter's blast and the summer's sun. Now the finest cloths, aided by furs and skins of the most costly character, have superseded them. Then coffee and tea were regarded as luxuries. Now they are the every day accompaniment of our meals. Are we any more happy? I question it. And yet we are forced to "accept the situation;" but still there are those who sigh for the "good old days."

The old *American Farmer* was then the received and accredited authority upon agricultural subjects by all those who were not afraid of being called "book farmers." Agriculture was then discussed in agricultural journals by essays and addresses, and by agricultural associations. Differences of opinion as to the best means of accomplishing our objects then existed as they do now. The same complaints were being made then as now in regard to failure of crops, lowness of prices, prevalence of filth, &c., and so I suppose it will be to the end of time. Manipulated fertilizers were then unknown. Rotations, the best method of applying manures, and of raising grass, &c., were then being discussed. Now, not only are our fertilizers manipulated for us, but there is danger of ourselves being manipulated by the hands of crafty men, and thus, to some extent, made to serve their purposes. A free, frank and open expression of our views and opinions, and of our intentions, will, in a great measure, keep us clear of that evil, and in the end serve all our purposes.

After more music the President announced the next place of meeting to be at the farm of Mr. Huyett, in Washington county, near the line of the Western Maryland Railroad, and the Baltimore County "Farmers' Union" was invited to be present. Mr. Rankin, of the latter club, extended an invitation to the club to attend the quarterly meeting of his club, which is to be held near Cockeysville on 6th December.

After passing sundry resolutions of thanks, &c., the meeting was adjourned, and many of the members returned home the same evening by the cars which had landed them safely in our city, all apparently gratified at the result of their visit.

We had the pleasure of meeting, among the members of the club, some of our old-time friends, among them Mr. David Brumbaugh, so long identified with the agricultural society of his county; also Dr. Maddox, well known to our present readers as the writer of some excellent papers published in the *Farmer*. Many new acquaintances were formed, and we hope to be frequent partakers in these delightful gatherings of the bone and sinew of the land.

THE GUNPOWDER (BALT. CO.) AGRICULTURAL CLUB met 4th ult., at the residence of D. Gorsuch, Esq. Saml. M. Price was chosen Foreman. The Club having gone through the usual preliminary exercises—

D. Gorsuch read a selected article on the value of clover, and on the surface application of manure. He supported the principles embodied therein by adducing his own experience of many years, going to prove that the clover root contains more fertilizing properties than the top. From stable manure, according to his experience, the most benefit is derived from the immediate application to the field, as fast as it is made in the barnyard. Practice is against the scientific theory of the ammoniacal loss—but with him double the benefit has been obtained from newly-made manure over that permitted to lie and rot. Chemical errors in support of the theory of evaporation had, he thought, retarded farmers. Encouraged by small experiments to greater, his experience had satisfied him that there is no such loss as chemists claim. He had never seen the same amount of advantage from any fertilizer as from horse-stable manure, applied direct from the stalls.

From these views, which were in accordance with the article read by Mr. G., T. T. Gorsuch, William Whitelock, (a guest,) and Jno. D. Matthews, dissented. They contended that the loss of ammonia commences with the voiding of the dung, and that it could be retained by the use of plaster. T. T. Gorsuch had seen no benefit from the weekly application, direct from the stable, of a whole winter's make; had not tried it since. For retaining the ammonia and all the valuable qualities in the manure, he favored composting with dry earth. The position assumed in the selected article was farther warmly sustained by Edwin Scott and Samuel M. Price; both thought the effect, when applied direct from the stable, two-fold—the former, in applying the manure, did not stop for snow, and even considered its presence rather a favorable circumstance. Mr. Price was by no means certain that the hauling and handling of the earth twice, as necessary in composting, was worth the time and labor involved. Green manure would cover twice the ground

of the rotted. He had adopted the method of applying direct from the stable.

Jno. D. Matthews read an article on "Aftermath." In commenting on it he said he believed farmers made a grave mistake in pasturing the aftermath; the land should be clothed as well as fed. He advocated the principle of shade and protection for the ground.

Mr. Baker, of the firm of Griffith, Baker & Bryan, implement makers of this city, exhibited to the Club, and explained its working and operation, the Keller Patent Grain and Fertilizer Drill, which is offered by them to the public through the pages of the *American Farmer*, and which it was intended shortly to try in the field on the farm of Mr. Samuel M. Price, one of the members of the Club.

The whole proceedings were of the most interesting and agreeable character—and, as is usual on such occasions, a number of ladies, friends and neighbors of the hostess, graced the Club with their presence.

The next meeting of the Club will take place Oct. 4th, at the farm of Jno. D. Matthews, near Cockeysville, when a trial of a number of agricultural implements will take place, including the Lime and Fertilizer Spreader of Thornburg & McGinnis, advertised in the *Farmer*.

SALE OF JERSEY CATTLE.—Below we give a list of Jersey cattle, from the herds of Messrs. Jesse and James W. Tyson and Wm. Devries, sold at auction in this city on September 17. The cattle were in good condition, and the attendance was large:

Cows and Heifers.—Betty, 10 years, \$87.50, W. M. Snyder; Nan, 8 years, \$90, General E. Shriver, Frederick, Md.; Myrtle, 4 years, \$150, do.; Connie, 2½ years, \$100, do.; Ettie, 2½ years, \$155, H. B. Holden; Daisy, 6 years, \$70, Mr. Mordecai; Butter Cup 2d, 5 years, \$80, Gen. Shriver; Nesta, 17 months, \$105, H. B. Holden; Lettie, 12 months, \$50, Mr. Baugher; Mab, 10 months, \$100, do.; Leda, 7 months, \$59, do.; Hetty, 7 months, \$95, do.; Chelli, 3 months, \$67.50, Dr. Downing; Ceres, 3 years, \$75, W. M. Snyder; Pauline, 10 years, \$87, Mr. Spiller; Lola Flirt, 3 years, \$75, do.; Abigail, 2½ years, \$65, do.; Daisy, 1 year, \$30, Gen. Shriver.

Bulls.—Kaiser, 2 years, \$37.50, Mr. Spiller; Dundreary, 8 months, \$40, Gen. Shriver; Czar, 2 years, \$40, J. C. Smith; Kaiser, 1 year, \$27.50, Mr. Gunther; Vulcan, 1½ years, \$25, J. E. Phillips; Stockton, 3 months, \$20, do.; John Randolph, 4 months, \$20, Mr. Williams; Wade Hampton, 2 years, \$35, do.

PICKLES.—A very warm and dry place in summer and winter is best for pickles and preserves—dampness will spoil them.

Farmers' Union.

This new institution, the formation of which we have on former occasions alluded to, held a public meeting at the beautiful woods known as Cockey's camp-ground, on the 11th ult.

We were in attendance during the earlier part of the day, and can testify to the excellent feeling and pleasure manifested by all who partook in the proceedings. The stand for the speakers was suitably decorated by the ladies of the neighborhood, with the various products of the earth interwoven with evergreens and flowers; some of our city manufacturers of implements also had forwarded to the Committee of Arrangements some of their productions, which were appropriately deposited around the stand, the whole presenting a beautiful appearance, and eliciting the admiration of the beholders.

The meeting was called to order at about 12 o'clock, noon, by the President of the Club, Mr. Saml. M. Rankin, who made some suitable remarks, showing, from the constitution, that the object and nature of the Club was the union of "farmers and such other persons as are willing to co-operate with the farmer for the promotion of the farmer's interests," and "to further and protect the general interests of the agriculturist." The remarks of Mr. Rankin were happy and well-timed, and received with evident cordiality by the audience.

After the performance of a piece of music by one of the bands, of which two were present, the President introduced Mr. D. Lawrence, of Howard Co., who had been announced to deliver the address on the occasion—and as he stated it as the intention of the Committee of the Club to publish his speech, we did not attempt to take any notes; we will remark, however, that the speaker dwelt principally upon the necessity of farmers co-operating for the protection of their rights and interests, as all other classes were doing for their interests, and that it was too generally the case the farmers, who were the main producing class, were made to suffer for the aggrandizement of the others, and were especially the victims of speculators and non-producers.

After the conclusion of Mr. Lawrence's address, some passages in which were quite eloquent, Mr. Conrad, a gentleman of the bar of the city, was introduced to the audience, and endeavored to show that railroad companies and other associations "have rights as well as farmers, and the thing to be accomplished by the farmer, is to secure legislation and that condition of things which shall protect the farmer without running counter with the rights of others. He advocated organization among farmers to secure justice to all parties concerned."

The assemblage was not very large until the afternoon, when, at the conclusion of the

proceedings of the club, an adjournment took place for lunch. In the meantime the platform was cleared for another part of the programme, and until the shades of night began to hover around, music and the dance took the place of the graver services of the day, and the company was very largely increased.

The Cotton Crop.

The Commercial and Financial Chronicle of N. York, has carefully prepared the statistics of the Cotton crop, up to the 31st August, 1878, which have been examined and approved by a committee of the N. Y. Cotton Exchange, and from which we make some extracts. It will be borne in mind that the 31st August in commercial circles is accepted as the terminal period of the "Cotton year," and all estimates are founded upon the results as shown at that date. The crop during the past year, it will be seen, falls only 70,000 bales short of *four millions of bales*, and is nearly a million of bales in *excess* of the crop of the previous year. This is a gratifying result to the planters of the South. From this statement we give the following tables, which will present at a glance the comparative product for the last four years:—

	1869-70	1870-71	1871-72	1872-73
Louisiana.....	1,142,697	1,446,490	957,538	1,240,584
Alabama.....	305,926	404,673	288,012	382,457
Texas.....	246,384	314,454	197,956	845,490
Florida.....	23,194	16,668	29,350	14,068
Georgia.....	485,374	725,528	450,539	614,089
S. Carolina.....	246,598	350,692	271,241	374,476
N. Carolina....	58,884	77,223	52,528	61,576
Virginia.....	203,981	339,175	276,098	433,583
Tennessee, &c.	322,386	580,813	341,080	237,313
Mf. at South...	79,843	91,240	120,000	279,163
Total bales..	3,114,592	4,347,006	2,974,351	3,990,508

The exports to foreign ports show a considerable increase, but not relatively as great as the gain in the crop. They may be summed up briefly as follows:

	1869-70	1870-71	1871-72	1872-73
To Gt. Britain..	1,475,444	2,345,998	1,454,532	1,905,566
To France.....	346,706	138,860	189,694	252,903
To other ports..	351,409	649,305	313,148	621,517
Total bales..	2,173,559	3,134,173	1,957,314	2,679,986

The total consumed in the United States can never be given with perfect accuracy, but the annexed estimate is probably near enough for all practical purposes:

	North of Virginia.	Elsewhere.	Total.
1869-70.....	777,341	85,295	862,600
1870-71.....	1,072,426	94,542	1,166,968
1871-72.....	1,007,540	130,000	1,137,540
1872-73.....	1,063,465	137,662	1,201,127

The total of the Sea Island crop during the past year was 26,289 bales, an increase of 9,444 bales over the crop of the previous year.

The American Farmer

AND

RURAL REGISTER.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

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WM. B. SANDS, }

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Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

BALTIMORE, MD., OCTOBER 1, 1873.

The Farmer for 1874.

We thank those of our friends who have already begun to send in subscribers for the new volume. We hope renewals generally will be made promptly, and that all of our readers who can do so will add other names to their own in sending in.

We will take it as an especial favor if our friends will call attention to our liberal premium list for clubs of subscribers. In almost every neighborhood there is some one whose inclination or avocation inclines him or her to move about or come in contact with the agricultural classes. If such can by a few words be put in communication with us it may result in mutual advantage, and we will be obliged to those who will give us the names and address of such parties as will be likely to act for us in extending our circulation.

Our capacity for usefulness will increase with the increase of our field, and as the advantage will be reciprocal, we rely upon all our present subscribers for help.

Our prospectus and list of premiums will be found on another page.

OUR CORRESPONDENTS.—We had already in our two preceding numbers, treated so largely upon the wheat crop, that we did not expect to take up more of our space this month on the same subject—but the very interesting and minute experiments of Mr. Harrison, of Va., and those made at the Experimental Farm in Pennsylvania, require of us to devote several additional pages to it. These papers will be read with great interest at this moment, whilst the farmers doubtless are largely increasing the area of their product, in anticipation of the demand which will certainly be made upon them for the ensuing year.

The communication on the application of lime to wheat, to preserve it from the ravages of the fly, is timely, and the very simple process renders it easy of trial. Our correspondent's name, if given, would have offered an additional incentive to its adoption, as he is high authority in farming matters in the Old Dominion.

Our friend M'Cue makes his final report upon the Thomas Smoothing Harrow. His communication speaks for itself.

The remarks of Mr. Rice, of N. J., on the cultivation of Hungarian Grass and Millet must suffice for the present for a correspondent who says he is not a subscriber, but a constant reader of the *Farmer*. It is to be hoped he will be a subscriber next year, and at the proper season he will find all the details of the cultivation in our pages. The remarks of Mr. R. on the quantity of clover and timothy seed he sows will be noted by the reader. His views on deep ploughing are contrary to the generally received views of the present day.

The great demand upon our pages precludes our taking further notice of other correspondents, and half a hundred other subjects which we would like to treat on.

A COMPLIMENT TO THE "OLD FARMER."—A subscriber in Northumberland Co., Va., missed his Sept. No., and in writing for another copy, says that without it he is "like the boy that lost a day at school, one lesson behind." We do not know how any one can afford to lose a number, for (it may, perhaps, be considered vanity on our part to say it,) we believe every number is worth to the intelligent farmer who takes a pride in his profession, and has a desire to improve himself and his estate, more than a year's subscription.

Major Gaines, of Charlotte, Va., in his communication on another page, intimates some surprise that we have had little to say of the widely extended concerted movements among farmers in the West, and asks our views of the "Granges."

The general purposes of the order of Patrons of Husbandry, as announced, are the furthering by all legitimate means of the interests of farmers, their association for mutual help and protection, and the combination of numbers for the purchase at wholesale rates of supplies for the farm and household. These objects have our warm approval. Our friend and all the readers of the *Farmer* will bear us witness that our voice has ever been in favor of union and co-operation among farmers for the protection and promotion of their interests.

The order referred to is a secret one, and to many this is the stumbling-block, since if it has no other aims than those avowed, whence, it is asked, is the necessity for secrecy. Without any argument upon the question of secret societies—which would be out of place and foreign to the character of this journal—we merely say there is apparent to us no necessity for tillers of the soil, *as such*, to resort to secret organization to accomplish results perfectly legitimate, lawful and praiseworthy.—If, however, the object of this fraternity is remotely political—which, however, is distinctly denied—then we may venture to say that its existence will be ephemeral and vain, the people of this country having put the seal of rejection upon secret political associations; and movements concerted in the secrecy of closed assemblies, will not find favorable endorsement by thinking people outside.

In the West and Northwest, the Granges are seeking to effect the regulation by law of railroad freights, and a decrease of tariffs on breadstuffs to Eastern markets. Can they in this expect to have the sympathy and support of Eastern farmers, who themselves find fault with the exorbitant tariffs of transportation companies, but whose main complaint is that it costs *more* to bring a bushel of wheat one hundred or two hundred miles to market than it does to bring it from Chicago or St. Louis. Can the grain producers on the water courses, who are enabled to market their crops at a cost of from five to eight cents per bushel, be supposed ready to join in a campaign against the railroads to compel them to reduce

freights on Western grain which has already well-nigh made the production of the cereals on the Atlantic seaboard as unprofitable as it is uncertain?

The evils growing out of the increase of the power and the wealth of the railroads are very great, and the monopolies which press so heavily upon the farming class, as well as upon others, are grievous to be borne. The remedy is to be found, however, only in calm statesmanship and in the operation of natural causes, properly directed. Free discussion, and the cool investigation of all measures proposed for escaping from hurtful and hasty legislation, are the means most congenial to the temper and education of our people. The public mind may need to be educated to appreciate the perils of the hour, but disorder and violence are more apt to result from seeking to enforce the mandates of secret combinations, than from the unembarrassed consideration by the people of the true situation of affairs.

Class legislation is a dangerous thing, and the system of governmental interference is too apt to be extended too far. Besides this, with our institutions, it can never be foretold who will be uppermost, so that the only safe path is to provide for the welfare and protect the rights of the *whole* people.

Is there a secret order designed to effect lawful purposes consonant with the frankness, manliness, and honesty characteristic of American farmers? It has been well said that "if we wish to contemplate a fearfully ruinous state of things, we have only to imagine each class in the community secretly organizing to protect its own interests and overthrow whatever it may fancy to be antagonistic to it." Farmers, from their necessary segregation, have great need but little opportunity for mutual help and co-operation. It becomes them now to take heed that in a too vivid appreciation of their danger they fall not into greater.

For ourselves we shall await further developments before we espouse a cause of which we know so little, or advise any step which may prove full of peril to the class we seek to serve, as well as to the whole community.

The *Frederick County (Md.) Fair* will be held October 14 to 17, at Frederick. The prospects are extremely favorable for a successful show.

LIST OF PREMIUMS

Offered for clubs of subscribers to the *American Farmer* for 1874. Subscriptions can be sent either at the regular rate of \$1.50 each, or at the club rate of \$1 each. The table shows the number of names required at each rate to secure the articles offered.

ARTICLES.	Value of Premium	No. Subscribers at	
		\$1.50	\$1.00
No.			
1. A collection of Flower or Garden Seeds, or an assortment of Plants and Vines of same value.....	\$5 00	19	20
2. A \$10 collection of Seeds, or of Plants and Vines.....	10 00	20	40
3. A \$20 assortment of Seeds, or Plants and Trees, your own selection, from any of our advertisers.....	20 00	40	80
4. Howe Sewing Machine, with Cover and Attachments complete.....	70 00	80	175
5. Grover & Baker Sewing Machine, with Cover and Attachments complete.....	70 00	80	175
6. Bickford Knitting Machine.....	25 00	40	80
7. Silver-Plated Revolving Butter Cooler.....	10 00	20	40
8. Silver-Plated Breakfast Castor....	8 10	15	30
9. Silver-Plated Ice Pitcher.....	15 00	30	60
10. Silver-Plated Cake Basket.....	12 00	25	50
11. Silver-Plated Fruit Dish.....	10 00	20	40
12. Set of Silver-Plated Teaspoons....	6 00	12	25
13. Set of Silver-Plated Tablespoons...	11 00	20	50
14. Set of Silver-Plated Table Forks...	11 00	20	50
15. Silver Plated Pie Knife.....	4 00	8	16
16. Child's Silver-Plated Cup.....	3 00	6	12
17. Solid Silver Fruit Knife.....	3 00	6	12
18. Silver-Plated Cream Ladle.....	1 50	4	8
19. Set of Dessert Knives, Ivory Handles.....	6 00	12	25
20. Superior Quality Carving Knife, Fork and Steel.....	6 00	12	25
21. Gold Pen and Silver Case.....	3 00	6	12
22. American Gold Hunting-Case Watch.....	60 00	100	225
23. American Silver Hunting Case Watch.....	35 00	60	120
24. Webster's Unabridged Pictorial Dictionary.....	12 00	20	50
25. Webster's National Dictionary....	5 00	10	25
26. Dexter Single-Barrel Breech Loader.....	22 50	40	75
27. Dexter Double-Barrel Breech Loader.....	50 00	75	160
28. Set of Light Buggy Harness.....	30 00	60	100
29. Gentleman's Fine Saddle.....	20 00	40	75
30. A pure bred Cotswold, Southdown or Shropshire down Ram.....	40 00	80	120
31. A thoroughbred Jersey, Ayrshire or Devon Bull Calf.....	75 00	120	200
32. A thoroughbred Shorthorn Bull Calf.....	100 00	150	250
33. A pair of pure bred Essex and Berkshire Pigs.....	30 00	60	100
34. A pair of pure Chester White Pigs.	25 00	50	80
35. Fairbanks' Portable Platform Scales.....	23 00	40	70
36. Fairbanks' Union or Family Scales.	14 00	25	50
37. Fairbanks' Counter Scales.....	10 00	20	40
38. Fairbanks' Trip Scales.....	5 00	10	20
39. Set Mathematical Drawing Instruments.....	4 00	8	16
40. One year's subscription to the American Farmer.....	1 50	10	

For any premium in this list, we can substitute, if desired, any agricultural implement for sale by any of our advertisers, agricultural or other books, nursery stock, &c., &c., of the same value as the offered premium.

All new subscribers whose names are received, whether singly or in clubs, before December 31st, will receive FREE the October, November and December numbers of this year.

Subscribers need not all be at one post-office, nor is it necessary for the names to be all sent at once.

Send the exact money with each list of names, and state in each letter that you are working for a premium.

This offer of premiums holds good till April 30th, 1874, but any premium will be sent upon demand, as soon as the proper number of names is received, with the money, to entitle the sender to the premium designated, but no name will count unless the money for it is paid by or before the date the premium is claimed. There is no competition. Every one gets what he has worked for, and may make his own selection.

Both old and new subscribers count in these lists.

Specimen numbers, blanks, posters, &c., furnished on application.

REMIT ALWAYS, when possible, by registered letter, postoffice order, or draft.

We want agents everywhere to extend the circulation of *The American Farmer*. An examination of the above premium list will show it is extremely liberal in its terms, and that the articles offered will give a wide choice, and are as good as the money. We will, however, be willing to pay a cash commission to parties who have facilities for making up clubs, and should be glad to hear from such as would prefer to be compensated in that way for their time and trouble.

Address all letters plainly, to

SAML. SANDS & SON,
Publishers American Farmer,
No. 9 North St., Baltimore, Md.

MUSIC.—We have received from Messrs. Lee & Walker, 922 Chestnut street, Phila., two songs, "Picking Cherries down the Lane," and "Happy Hours." Though not musical amateurs, we can appreciate real melody. If H. Willard had never composed any song but "Waiting," his ability to please could not be denied. "Longing" is also a favorite. Composers of words and music must accord, which they most happily do in "Waiting" and "Longing."

Agricultural Exhibitions this Month.

The Annual Show of the *Maryland State Agricultural Society* comes off at the Pimlico grounds, near this city, on the 7th to 10th October, as heretofore announced. All farmers and planters who take an interest in its success will not fail to be present on the occasion, and those wishing to obtain *Live Stock, Machinery, &c.*, will have here an opportunity of making a selection. The premium list is very liberal in all the departments of the Exhibition, and the lovers of fine *Poultry* will doubtless be peculiarly gratified, since the Poultry Association, recently formed in this vicinity, is entrusted with that particular department, and will make a handsome display.

The *Virginia State Society's Show* comes off on the 28th to 31st October at Richmond, and we have reason to expect a very fine exhibition. Some of our best breeders will, we learn, be at the show to exhibit their stock.

The *Virginia and North Carolina Society* will hold its Fair at Norfolk, on the 7th to 10th October.

The *North Carolina* at Raleigh, on the 13th to 18th October, and the *South Carolina* Exhibition from 4th to 7th November, at Columbia.

The *York County (Pa.) Fair* will be held at York, October 7 to 10.

The *Alleghany (Md.) County Show*, and the Montgomery County Fair, came off in September, the Carroll County and the Washington County, Md., Fairs, were all to be held in the last week of September, the Carroll Co. extending to the 3d Oct.

The *Maryland Institute Fair*, Baltimore, begins October 1, continuing through the month.

We tender our thanks to the several societies for the invitations received to visit these exhibitions.

THE BUTTER AND CHEESE TRADE.—A new exchange for the butter and cheese dealers of New York has recently been opened with suitable ceremonies. From the statistics presented at the opening the immense extent of this business will be seen. It is estimated from the receipts since May 1st, that there will arrive the current year, by way of the Hudson river, 3,500,000 packages of butter and cheese, of the aggregate value of \$50,000,000, while the value of wheat there received will be but \$24,000,000, corn \$26,000,000, flour \$20,000,000, cut meats \$12,000,000.

EARLY MAY WHEAT.—We noticed in our last the crop of this variety of wheat raised by Mr. L. S. Garrett, of King William C. H., Va. Before our paper was issued the wheat arrived, and the commission merchants sold it to a miller for grinding, and the numerous applicants to us for it for seed were consequently disappointed. Mr. G. regrets that it was not distributed for seeding, as he deems it, from his experience, "the best wheat in Virginia, the Fultz not excepted, as he had it side by side with the latter, and the Early May was ahead all the time." He expects to raise a fine crop another year, and will see to it that an opportunity is given to those wishing to try it to get a supply.

Acknowledgements.

Mr. Charles T. Schmidt, of Melrose Vineyard, near Avalon, recently sent us an assorted case of his excellent native wines. It is gratifying to know that such wines as these can be produced in Maryland, and that the demand for them is increasing. Those we received were submitted to appreciative tastes and fully enjoyed, and Mr. S. will accept our thanks for his gift. We are also indebted to Mr. C. A. Heineken, of Haymarket, Pr. Wm. Co., Va., for full specimens of Delaware, Concord and Martha grapes, the products of his vineyard at that place, which came to hand in beautiful order.

A NOXIOUS WEED.—A subscriber in Charles Co., Md., recently left with us a specimen of a weed, asking us to give, in the *Farmer*, its proper name and the best mode of eradicating it from his fields, where it had made its appearance. It is the Carolina Solanum, or Nettle, (*Solanum Carolinense*), a perennial rooted, low-growing plant, the stem of which is annual, both stem and leaves covered on both sides with sharp prickles, the flower purplish white, with yellow centre, and the fruit round and yellow.

This is an ugly weed, difficult to extirpate, increasing rapidly, and said by some to be almost as bad in our soils as the Canada Thistle. It is to be eradicated only by the same means used to destroy that pest. Destroying the perennial root by deep ploughing and occupying the ground for a succession of seasons with hoed crops, are the only means that give any promise of getting rid of this pernicious intruder, if it once gets a foothold.

FOREIGN GRAIN CROP.—The harvest in the U. S., as has already been shown, is undoubtedly one of superior quality, and in that respect has been seldom surpassed. In quantity, however, it falls somewhat short of that of last year, when the crop did not reach near an average—but the difference in quality will probably nearly make up for the deficiency. Attention is now being turned to the wheat harvest of Europe, and the result there is watched with great interest, as the price of the grain in this country will, to a greater or less extent, be regulated thereby. The crop of England, and the potato crop of Ireland, were the preceding year decidedly short, and early in the present year grave apprehensions were felt, that much suffering would be the consequence. The foresight of traders and capitalists, in taking early steps to secure supplies from every quarter in which the cereals were produced, had the effect, however, of providing them to such an extent as to keep down prices within reasonable bounds—this country, although not able to furnish any very large quantity of wheat, has supplied from its unprecedented corn crop an immense amount of that grain to add to the mass which England has imported from the Continent, and thus materially aided in the preservation of her people from the effects of the dreaded calamity with which they were threatened. Early in the present season, the prospect for the crops in England was unusually good, and hopes were entertained that a fair yield would be the result this year—but the following remarks from the London Mark Lane Express, the recognized organ of the grain growing interest of England, shows that disappointment is again to overtake the people of that country in the supply of their breadstuffs—and not only is such the case in Great Britain, but the same fears are entertained for some of the best grain producing countries of Europe. So scarce has the supply become in France, that an *emeute* was recently feared, for it is an old saying, that the advance of a penny a loaf in Paris, will almost at any time cause a revolution. The scarcity in Europe cannot fail to have a favorable effect upon the prices of grain in this country. The *Express* says:—

"We have more unfavorable reports as to wheat in England, which, in many localities, is not expected to equal even the very poor yield of last year, and there are strong hints as to danger of sprouting in the shock from

the present occasional showers. In France storms have done much damage, and a deficiency of at least ten to twelve per cent. may be relied upon. Old wheat has totally disappeared from the market, and new is supplying its place at higher prices. Rye—an extensive bread crop—in France, Belgium, Holland and Germany, is reckoned as very deficient, and rates are rising. In Hungary the condition of the crop has been greatly overrated. In Germany only an ordinary yield is hoped for." The *Express* sums up the situation abroad by saying that "with a deficient crop, exhausted stocks, and but generally moderate prospects in Europe, low prices seem almost impossible next season."

It is very evident that the supply, to meet the deficiency thus shadowed forth, must come from the U. States, and farmers should now be on the look-out, that they are not cheated out of their interest in the expected increase in price by speculators.

☞ The firm of John Bullock & Sons, who offer Bone Dust of their own manufacture in this month's *Farmer*, is one we have long known, and from our knowledge of them, and the reputation their product bears, we risk nothing in recommending it as a reliable article.

☞ We call special attention to the advertisement of Mr. J. W. Kerr, Nurseryman, at Denton, Md., who is about closing out his business at that point, and is offering his stock at such low rates as to make it to the interest of those who intend planting to correspond with him. See his rates. From what we know of Mr. K., we believe he will do all he promises.

☞ Messrs. Poole & Hunt's advertisement in this number will attract attention. It will be seen that over 6,000 of their Powers are now in use, and are pledged to equal any over-shot. This is one of the most extensive as well as the most reliable houses in this line in this city.

☞ Messrs. Noah Walker & Co's clothing establishment is probably the largest house in Baltimore in their particular department. No one need fear of going astray in dealing with them. We refer to their advertisement in our pages for this month.

☞ Mr. S. T. C. Brown offers in our columns the Patterson Devons, of the celebrated Patterson herd. The Devons, for all the purposes of the farmer, are unexcelled by any other cattle.

BREADSTUFFS.—Since we penned the notice of the reported scarcity of breadstuffs in Europe, and the consequent demand and good prices for our crops the coming year, we read in the interesting correspondence from Europe of a late date of Mr. Fulton, one of the editors of the *Baltimore American*, a statement in which he alludes to the information furnished his paper two months before, of the shortness of the crop of wheat in Austria, Hungary, and parts of Prussia, which was greatly damaged by the rust. He now says:

"The crop in France is also, if possible, worse than in any other part of the continent. The great grain-growing regions of Hungary have hitherto been relied upon by both France and England to make up deficiencies, but she will scarcely be able to supply Austria this year. These predictions have been fully verified, and already orders have gone forth for large shipments from America. The French and Austrian papers are now fully admitting the fact of a general scarcity, and in France orders have been given to the bakers not to reduce the weight of their bread, the government agreeing to make up their losses. This is deemed necessary to keep the working classes quiet. The shipment of large cargoes of cereals from San Francisco are already announced in the Paris papers. At Brussels the price of bread has already considerably advanced."

A recent number of the *Mark Lane (Eng.) Express*, concedes that England must import 96,000,000 bushels to make up this year's deficiency in the crop, and it is now certain, by data of the most reliable character, that the deficiency is large enough to absorb all the surplus which is likely to be obtained from all the wheat growing countries which export to Great Britain. More especially is this the case when it is estimated that France will need 48,000,000 bushels from abroad this year, and that Russia and Germany will have less to spare than usual. The total exports of wheat and flour from the United States to Europe for the year ending June 30, 1872, amounted to 24,000,000 bushels.

Our farmers will govern themselves accordingly in the sale of their grain, and we advise them to put in as large a crop this fall as possible.

CONSOLIDATION OF NEW ORLEANS AGRICULTURAL PAPERS.—The subscription list and good will of the *Rural Southland* have been purchased by *Our Home Journal*, and the two journals will hereafter be joined under the title of *Our Home Journal and Rural Southland*, J. H. Hummel, publisher, New Orleans.

The Apiary.

WINTERING BEES.—A Bee man of experience says, that a room for wintering should have abundant means for ventilation, without admission of light, as well as being frost-proof. I fixed the cellar window opening into the bee-room so that it could be left open when desired, thus giving free ventilation without admitting the light. Last December, we put in about 111 hives, leaving out 27 to experiment with. The thermometer was carefully watched, and we endeavored to keep six to ten degrees above freezing. And, by the way, this thermometer was a good test of the condition of the bees, as sometimes, in consequence of a change of the wind and weather with the ventilators open, the mercury would fall to freezing; but after being closed, it would rise to six or eight above freezing, while it was ranging out-doors from ten to thirty-five below zero—showing their was abundance of life in the room. Our bees came out of their winter quarters in good condition, with the loss of but few hives, though we found a number of them weak, which we united, as we had a large stock of bees, and cared more for strength than numbers. I don't know as it is worth while to tell about the twenty-seven that were left out and experimented on with honey-quilts, etc., as nothing satisfactory resulted therefrom, as far as pecuniary matters were concerned. Suffice it to say, if I had treated all in this way, there would have been a great blank in the apiary department.

I neglected to mention in its place that, when putting the hives in winter-quarters, the caps and honey-boxes were removed, and the honey-board placed in such a position as to afford abundant upward ventilation. The hives with loose bottom-boards were lifted from them, and, where the shelves were of wide lumber, the hives were placed on laths; where the shelves were of narrow lumber, the boards were spread, and the hives were set directly on them. The Langstroth hives were left open below as much as possible.

From my own experience, I conclude that bees may, and do frequently, winter well on their summer stands; yet it is far more satisfactory to depend upon a good light-proof, frost-proof room, with abundant ventilation, and the temperature kept at 68 degrees above freezing. The swarms should be put in before their combs have been frosted, as, when hives are put in a warm room with their combs glistening with frost, they are very liable to dysentery. The bees should be disturbed as little as possible, and, though it might be well to take them out once during a warm spell, so that they may have a "good fly," it is not necessary, as they will remain from three to four months in good condition without it. The season here has been far worse than last, and it continues so dry that I fear we shall have few autumn flowers.

The Fireside.

Reflections on Viewing Mountain Scenery.

BY J. SULLIVAN.

I love to roam in solitude,
And brood in silence o'er the scene,
Where Nature, in her wildest mood,
Form'd precipice and deep ravine.

To climb the craggy mountain's side,
To breathe the pure, unalloyed air,
Than all the haunts of wealth and pride
Is to my bosom dearer far.

Talk not to me of ancient fanes,
Of works of art for ages hid,
Of Nineveh's exhumed remains,
Of Egypt's towering pyramid.

I'd rather on the mountain stand,
View Nature's work on Nature's chart,
Untouched but by their Maker's hand,
Than all the boasted works of art.

All human records pass away;
Historic age and graven stone
Are but momentoes of to-day;
To-morrow, both alike unknown.

Yes! Nineveh's remains exhumed
Rise not to immortality;
Their forms destroy'd, again entomb'd,
Will then forever cease to be.

The twilight of events that set
Their impress on the human mind,
On History's page may linger yet
'Twill to oblivion be consign'd.

But these eternal monuments,
Upreared by the Creator's hand,
Fit emblems of Omnipotence,
As erst they stood, forever stand.

Records engrav'd by Deity
With time and change will not decay,
But until time shall cease to be
Remain as perfect as to-day.

One name alone on all I see,
Where'er I turn 'tis still the same,
For all around presents to me
That loved, adored and honored name.

And ages hence, when I shall sleep
Low mouldering beneath the soil,
The wanderer o'er this mountain steep,
Like me, will read the name of God.

RUSSELL GOLD MINE, N. C.

Wonders of the Strawberry Plant.

(Selected by a Lady for the American Farmer.)

From the admirable memoir of Walter Powell, merchant of London and Melbourne, Australia, lately published by Messrs. Routledge, New York, under the title of "The Thorough Business Man," we take this extract:

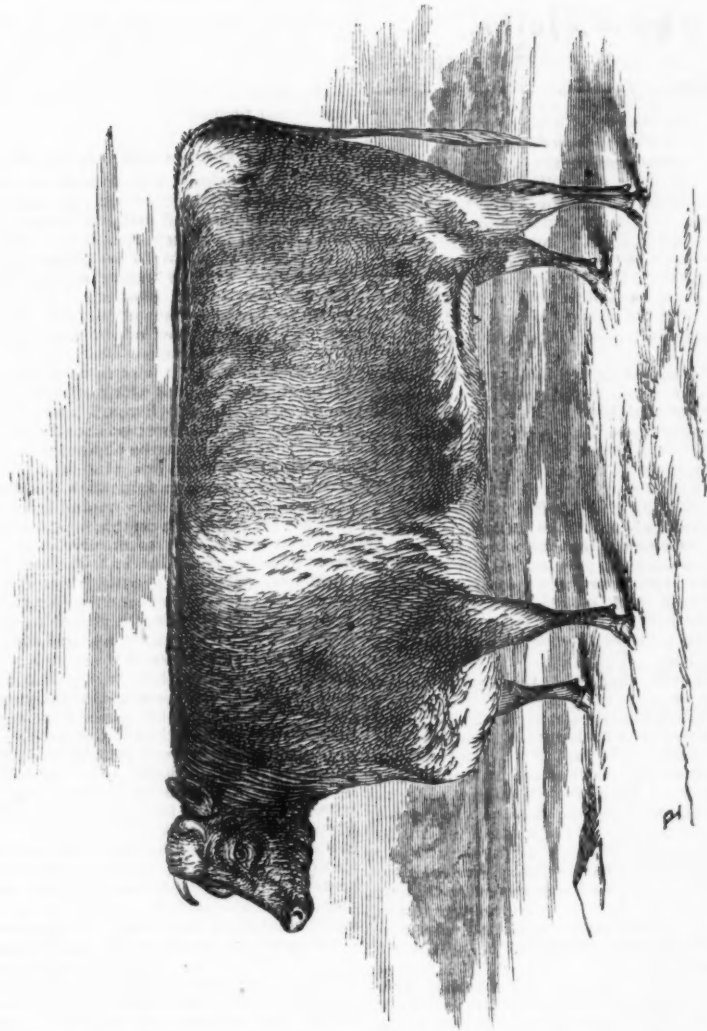
"Saint Pierre, whilst residing in Paris, had one day his attention drawn to a strawberry plant growing in a pot. For advantage of light and air, he had placed it near an open window. Presently some small winged insects settled upon it, which he describes. Some of them shone like gold, others like silver or brass; some were spotted, some striped, others blue, green, brown, chequered. The heads of some were round, like a turban; others, conical. Here seemed to be a tuft of black velvet, there a sparkling ruby. He

dwells on the beauty of their wings, the way in which they were disposed, and the wonderful mechanism by which they were propelled. He watched the plant at intervals, and found that in the course of three weeks thirty-seven different species of these insects had visited it. He describes the structure of their eyes, shows how much more they could see in an object than a man with the most powerful microscope. This led him to examine his plant with a lens. He found the leaves divided into compartments, hedged about with bristles, and divided by canals. The compartments appeared like large verdant enclosures, the bristles seemed to resemble curious kinds of vegetables, some forked, others hollowed into tubes, from the extremities of which a liquor distilled, whilst the canals seemed filled with a brilliant fluid. He then reflects on the varieties of the strawberry plant, remarking that we cultivate but twelve kinds, whilst there are *several hundreds*, and that the plant is found in almost all climates. I have but glanced at his paper, which is of amazing beauty. He concludes with the observation, that "a complete history of the strawberry plant would give ample employment to all the Naturalists in the world."

CROP REPORTS.—The monthly report, from the Agricultural Bureau, of the crop prospects, for the month of August and part of September has been completed.

The correspondents from the south report favorably upon the condition of the cotton crop. In the larger part of the cotton region lying in the zone of frequent rains some damage was done, and a small acreage was lost through what is known as "weeding." The department, however, is of the opinion that the crop will approximate four million bales. The wheat crop, though short in some parts of the country, is offset by extraordinary crops in others. The yield is placed at two hundred and fifty million bushels. The product in Minnesota for the year will reach the unprecedented aggregate of thirty million bushels. The crop for Maryland is a fair average.

SAVING SEED CORN.—G. Synder, Scott Station, Kalamazoo county, Mich., states there had never before been such a failure of seed corn in coming up as the present season. His observations and those of his neighbors had shown that corn that had been selected and hung away from all heat had its vitality destroyed by freezing. Corn husked and thrown on the floor, and covered with snow, had (seven-eighths of it) grown. Corn left in the shock in the field had produced. Corn put in the crib had failed. He concluded, from these observations and this experience, that all seed corn, if husked, should be kept from freezing during the winter; that if husked, it should never be allowed to lie on the ground over night; and that corn that is to be hung up in a cold room for seed, should never be husked until the planting time arrives.



Short-Horn Cow Rosamond 8th.

The property of Hon. Samuel Campbell, New York Mills, New York.

IMMEDIATE CURING OF HAY AND GRAIN.

—Mr. Mechi, the well known English agriculturist, makes the following report upon a recent invention in England, to which the Society of Arts has awarded a gold medal and fifty guineas:—

“The mechanism is very simple and inexpensive. A rapidly revolving fan, driven by horses or by steam power, is attached to the smoke-box of a coke furnace, and (a gauze screen intervening) withdraws all the heat which otherwise would be carried up the chimney or shaft and be wasted, and diffuses

itself among the grass or corn sheaves exposed to its blast. Grass cut and at once brought to the mouth of the hot blast is converted in eight or ten minutes, into fine green hay of the very best quality, fit for immediate sale or consumption.”

THE VERY LATEST OF THE MONEY PANIC.

—As our paper was going to press we received the following from N. York, dated 1.10 P. M. 25th:—“Confidence is much restored, and there is a belief that matters will soon assume a decided improvement.”

The Florist.

Floriculture, &c.—October, 1873.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore county, Md.

The Green-House.

In Virginia, and north of it, preparation should be made for getting under glass all tender plants during the early part of the month, so that cold nights and early frosts do not injure them. Towards this end the first work to be done is to examine the heating apparatus, whether flues or hot water, so that all may be got in good working order; also see that the glazing is done, and the wall inside and under the stage well washed with hot lime.

We would not crowd the house all at once, but rather move in first such plants as are sensitive of cold, leaving such things as Myrtles, Laurestines, Pittosporums, Oleanders, &c., &c., out of doors for a few weeks longer. In truth, these latter can be wintered safely in a deep cold pit or dry cellar.

After housing plants, a free admission of air should be tendered them in mild weather. Choice specimens, that have grown in the open air during the summer, should be taken up, potted, and placed in a close, shady place, for the first week or ten days, or until the roots take hold of the soil, when they can be placed in position in the conservatory or green-house. We would suggest the propriety of refraining from the application of fire heat as long as possible; rather aim to keep up the temperature by shutting in a little solar heat; by so doing the plants will be more robust, and pass the winter better. Nurserymen and florists are in the habit of keeping up a high temperature, in order to secure masses of certain flowers in late fall and winter months for the market, but we do not write for the benefit of that class.

All such plants as Cinerarias, Calceolarias, Pansies and Chinese Primroses succeed best when kept on shelves or tables, near to the glass; and should any of these still remain in the seed pan, they ought to be potted off without delay.

Calla Lilies will now be starting into growth. These should be overhauled, and a portion of them repotted and watered, while the remainder may remain dormant, and be brought into action a month or two later, so as to prolong their season of blooming.

Hyacinths, Narcissus, Van Thol Tulips and Crocus should now be potted in rich, light earth, after which the pots should be placed in a cellar, or under the green-house stage, until the pots are filled with fibrous roots. It is a good plan to cover the filled pots over with fine earth or sand, in order to facilitate the process of rooting. Hyacinths grown in glasses should be kept in the shade until the rootlets are two to three inches long, afterwards moving them gradually to the light. Soft water is the best to use.

Azaleas and Camellias should be watered but sparingly during the fall and early winter months, and if the latter have set their buds in clusters, all should be rubbed off to one bud; by so doing you will have finer flowers and better plants.

Pleasure Grounds and Flower Garden.

Tulips, Hyacinths, Narcissus, Crocus, Snowdrops, and other kindred bulbous roots, should be put in the ground without delay. All of them delight in a deep, rich, light, sandy soil. The three first ought to be planted 2½ to 3 inches deep, while 2 inches is deep enough for the last named two, but before severe frosts set in the surface of the bed should be covered with a layer of short manure, say about two inches thick.

Cold frames ought also to be prepared by filling in about a foot thick of rich, mellow, sandy loam. In this, Sweet Violets, Pansies, Auriculas, Double Primroses, and such other herbaceous plants may be planted that are too delicate to withstand our winters.

We have heretofore said much about planting trees, and now merely remind our readers that the present is a favorable season for moving Evergreens, but to insure success the ground must be friable and mellow, for to plant trees where the ground is wet or mushy is only a waste of labor and money. A tree three feet high requires a round or square hole three feet in diameter, and one and a half or two feet deep, then put enough of good earth in the bottom, that the spread out roots of the tree may rest on it, so that the shoulder of the roots may not be deeper after a gentle pressure of the foot, than it was while standing in the nursery row. Should the sub-soil be retentive of moisture, the holes ought to be drained, otherwise the water during the winter will settle in the hole and rot the roots. Preparation for planting of deciduous trees and shrubs may now be made, for it is well that this work should not be gone about in haste, and if large plantations are contemplated, then the land should be deeply sub-soil ploughed or trenched. We prefer the fall months for grading ground for a lawn, and the laying down of new roads and walks, for the reason that all filling in gets time to settle before it is finished for seeding down in spring, and moreover, the owner of a place, together with his help, are not so much pushed with work that has to be done against time, regulated by the season.

And to lead to a knowledge of the grouping of trees artistically, we would recommend that those about to plant should study and take notes in early fall on the varied tints of color in leaves by glancing over a forest bound landscape, where may be seen the crimson leaves of the Sweet Gum, Red Maple, and Scarlet Oak, with other colors graded down through various hues to the pale yellow of the Ash and Sugar Maple.

The grass on no old lawn should be cut after the first of the month, as leaving a nap

of grass two to three inches in length is a great protection against its being hove out by frosts.

W. D. B.

Papers from a Garden—No. 2.

BY JANE ROSWELL MOORE.

This year I have taken much comfort in my arbor. Let not so ambitious a word lead the reader to suppose I mean a costly retreat of curiously twined rustic work, moss-grown with age, or pendant with baskets of bloom. By no means; mine is the most simple arrangement imaginable, planned and carried out wholly by feminine fingers—merely a few poles, a young sapling from the woods with a network of twine overhead, the rude frame-work hidden from view by graceful vines, *literally covered* with many-colored Ipomeas. These have been a feast to the eye, and a source of daily admiration to my neighbors, some even going so far as to say they would grow them for the beauty of their leaves alone, whilst a very critical florist friend pronounced a cross vine of the most delicate cerulean hue, the loveliest sight she had ever seen. In a space of ten feet, about one hundred of these large trumpets of exquisite blue, bordered with white, were in bloom, half hidden by beautiful green leaves. Hovey's Catalogue enumerates seventeen varieties of Ipomeas; a pure white; scarlet; crimson; deep purple blue; Madame Anne, red stripes on white ground; sky blue, with white border; violet and white; a marble-leaved variety; blue with an intense purple star in the centre, and a border of white; mazarine blue; pale yellow, and fragrant white. A single vine yields abundance of seeds, and once grown, you need never be without them. My arbor of Star Ipomeas will long be remembered—it sprang up so quickly, was a thing of so much beauty, lasting, too, through all the season of out-door life, that it became associated with not a few pleasant memories which will linger long after the touch of frost has withered vine and flower.

What a relief it was on busy summer mornings, when the mysteries of canning and cooking were going on in the kitchen, to have a cool shady place to which the little ones could be banished, where, with their new game, *Avilude*, they combined pleasure and profit; and, allured by pictures, learned also the habits and uses of curious birds of many lands. Then what a pleasure it has been to me, from the door of my retreat, to watch the growth and blooming of my small collection of variegated leaved Cannas, stately and tropical; Hovey's *hardy* Ghent Azaleas, raised from seed, and much admired for their rich orange and scarlet hues; French and German Asters, the beauty of fall gardens; rare Calceolarias; Lantanas, with their rich diadems of flowers; Lilies, pure and white, with masses of smaller flowers. Let me say a word about my Camellia Balsams. In the spring I got a paper of seed of four new va-

rieties, recommended in Briggs' Catalogue as "particularly fine." The low growth and general bushy appearance of the plant have made it no especial favorite of mine. But the engravings of it looked so enticing that I could not resist giving it another trial. And I will long rejoice that I did. I pruned the side branches as directed, giving ambitious shoots constant nipping. And I was not prepared for the height the plants attained, the perfection, doubleness, and rare beauty of the flowers. By some they were pronounced unequalled by anything in the garden. On pure white ground were deep brilliant crimson stripes on some—on others, veins, spots and streaks of lovely pink, red, lilac and crimson. Pruned in this way, they were planted very closely, taking little room, and forming a border of wondrous beauty. I never wish to be without them.

TENDER PLANTS.—The cool nights will soon injure tender plants. Those for house culture should be re-potted this month, set in a sheltered, but out-door situation, and kept there till in danger from frost. This will make them hardy and well rooted. Do without fire heat as late as possible; give plenty of fresh air and sunshine. Don't water sickly and often apparently dead plants; set them under the stand; give rest till the roots start; watering will kill them by forcing beyond their strength.

E. R.

Red Clover—Its Value and Wondrous Qualities.

To the Editors of the American Farmer:

Farmers do not generally, we believe, appreciate clover, or esteem it as the great source of improvement, and the profit and support of successful husbandry.

Will the farming fraternity continue to neglect the untold benefits to mankind which may be derived from a general and intelligent use of this, the cheapest and most available, if not the *best*, of all fertilizers?

All practical and observant cultivators of the soil know that with a judicious and liberal use of clover, stimulated by plaister, nearly all impoverished soils can be speedily furnished with all the requisites of plant food, acting in a manner most grateful and congenial to the wants of vegetation.

An analysis of dry red clover show one hundred parts to contain as follows:

Silica	4.81
Lime	37.07
Magnesia	4.44
Potash	26.60
Soda	7.89
Sulphuric acid	5.96
Alumina	0.18
Phosphoric acid	8.76
Chlorine	4.83

100.54

Do we not by means of clover, with the

improvement of the soil and great increase of cereal crops, have the benefits of pork, beef, milk, butter, mutton, and fine stock generally, in quantities and numbers surpassing all our calculations? Indeed, tillage and good living with the farmer who does not raise clover is an uphill business; and, in short, there can be no thrift on exhausted farms without the aid of this, the *ne plus ultra* of all green manures.

Should not these wonderful results, which are attainable by most farmers, incite them to pursue a course that will eventually and certainly bring about prosperity which no other means can realize? J. FITZ.

Kentick Depot, Albemarle Co., Va.

DOMESTIC RECIPES.

MAKING BREAD.—About one of the most important duties in housekeeping is the making of good bread. Bread is emphatically, as has always been acknowledged, the staff of life, and so high is our estimate of the great importance of knowing how to make it good, that we have sometimes almost come to the conclusion that, if sumptuary laws could in any case be tolerated, one forbidding the marriage of a woman until she had learned to make good bread, should be passed. A lady named Mata Duncan, in accordance with a suggestion from the Patrons of Husbandry, of which we take it she is a member, furnishes a paper on the subject of bread-making, and one of the bachelor brothers suggests that all the young sisters try it. Mata makes a very sensible remark, on giving her *recipe*, that "as it seems to be the aim of every woman's life to try to please her husband, whether she succeeds or not, I would say that one step in that direction is to give him good bread." We coincide with the sentiment.

Recipe for making Light Bread.—In the first place, to make good bread, I want good flour; then I proceed to make my rising by boiling a pint of new milk; I take off the scum that rises on top and put in cold water until the milk is brought down to the right temperature—say about blood heat—then stir in three large tablespoonfuls of corn meal; then flour, until I have a stiff batter. This must be kept in warm water and stirred occasionally, until it begins to rise. When very light, I get my flour ready for making bread. I use butter or lard to shorten—two tablespoonfuls; a teaspoonful of soda, and salt to suit the taste, and make up with lukewarm water; knead twenty minutes; have my pans warm and well buttered; fill pans half full; set near the stove to rise. When ready to bake, have the oven as hot as for biscuit; this prevents the bread from rising too much and running over. Keep up a regular heat and bake one hour; take up, rub some butter over the top, wrap up in a cloth and let cool—then the bread is ready for use.

This recipe never fails. All of us who have kept house know what a worry bad

bread is; at least I know how many different recipes I have tried before I found the right one, and what blue, sad-looking, heavy bread I have made, and have been tempted to say I would never try again. I am never ashamed of bread made in the above named way, and am always rewarded by seeing that better half of mine eating his bread and asking me no questions.

[3] A valuable Farm on the tide water of Virginia is offered for sale in our pages, by Dr. Smith, of Heathsville—a great bargain may be obtained, as the whole will be sold in one tract, or divided in lots of 50 acres or more. Those engaged in the oyster or fruit and lumber business should give this tract their attention.

[Before this number reaches the most of our readers, the intelligence will have been received of the tremendous crash which has taken place in the financial circles at New York, and which has extended to a greater or less extent to nearly every quarter of the country. Under the circumstances we might as well omit making quotations in our produce markets, for there is but little doing, and, in consequence of the locking up of funds, it is impossible to do much business. The elevators and railroad cars here are full of corn, and orders are being given to stop transportation from the West—whilst at the same time shipping in abundance is waiting for freight for Europe. The situation is almost unparalleled, and our farmers and planters must judge for themselves whether or not it will be judicious to ship their produce to market at this time. Undoubtedly prices are depressed and decidedly lower than they would have been, with the advices which have of late come to hand, of the want of our breadstuffs in Europe—and the difficulty is, where can they place their funds when their produce is sold, such is the want of confidence in banks and bankers. So far the commercial community has stood firm, but the difficulty of getting money, even upon the best securities, is causing inconvenience and loss to merchants and other business men, notwithstanding the banks are doing all in their power, consistent with their own safety, to render assistance to them. We hope and trust that in a few days the worst will have been seen, and a reaction taken place. But one banking-house in Baltimore, at the time of writing, has suspended—that of Brown & Lancaster—connected with Richmond, which it is said has been caused by their sustaining some of the Southern railroads. The panic commenced with the house of Jay Cooke & Co., of New York, occasioned by their sustaining the North Pacific Railroad, and extended to their house in Washington. Fisk & Hatch, another great house in New York, soon followed, and subsequently Henry Clews & Co., Brown & Watson, and Howes & Macey—all

the largest class of bankers—which brought down a host of others of less fame, nearly all of the broker and banker classes. At the present moment all is confusion and uncertainty, but we advise our friends to remain calm and hopeful.—*Eds. American Farmer.*]

Baltimore Markets, Sept. 25.

The quotations below are Wholesale Prices.

Breadstuffs.—Flour—Howard St. Super, \$5a 5.75; common to fair extra, \$6a 6.50; good to choice, \$6.75a 7.25; Family, \$7.25a 9; Ohio and Indiana Super, \$5a 5.75; common to fair extra, \$6a 6.50; good to choice, \$6.75a 7.25; Family, \$7.25a 8.75; City Mills Super, \$5a 6; low to medium extra, \$6.75a 7.75; Rio brands do., \$8.50a 8.75; City fancy brands, \$9.75a 11; Fine Flour, \$3.50a 4.50; Rye Flour, \$3.25a 3.50; Corn Meal, City Mills, \$5.40; Western, \$5.35.

Wheat.—For reasons assigned elsewhere, Wheat is dull. We quote choice White, \$1.75; amber, \$1.70; prime red, \$1.65; good white and red, \$1.43a 1.60; Western spring red, \$1.42½; do. winter amber, \$1.53.

Corn.—Market nominal; Western white, 66 cts.; Southern yellow, 75a 78 cts.

Oats.—Southern, 46a 47 cts.; mixed Western, 44a 45 cts.; bright do., 46a 47 cts.

Rye.—Market steady, but no arrivals; for fair to prime, 68a 69 cts.

Cotton.—The continued fiscal derangement depresses the cotton market, whilst otherwise the situation would be considered favorable. No sales reported, and tone of market weaker; prices nominal. We quote middling 18a 18½ cts.; low middling, 17½ a 17¾ cts.; good ordinary, 16½ a 16¾ cts., and ordinary at 14a 15 cts. The stock at all ports to-day is estimated at 84,325 bales.

Hay and Straw.—Penna. Timothy, \$24a 26; prime Cecil county, \$27a 28; no Western here. Oats and Rye Straw, \$17, the latter dull.

Live Stock.—Beef Cattle.—Market quiet. Quotations range from 3 to 6 cts., according to quality.

Hogs.—In good demand. We quote corn-fed 6½ a 7 cts.; still-fed 6½ a 6¾ cts., net.

Sheep.—Market dull. Fair to good, 4a 4½ cts.; good to extra, 5a 5½ cts., gross.

Milk Feed.—City Mills Brownstuff, \$18a 20 per ton, and Middlings \$16a 17, the former scarce and wanted; Western Bran, \$17a 18 per ton, in good demand; Shipstuff dull at \$30.

Rice.—No Carolina offering, and wanted at 9a 9½ cts. per lb.; Rangoon scarce and in demand at 6½ a 6¾ cts.

Salt.—Is steady; Liverpool fine \$9.15a 2.25; ground alum, \$1.35a 1.45 per sack; Turks Island, 30a 35 cts. per bushel.

Seeds.—Timothy, \$3.50a 3.75 per bushel for good to prime; inferior lots dull of sale; Flaxseed firm at \$2 per bushel; Cloverseed wanted at 9½ cts. per lb.; old jobbing, 9a 9½ cts.

Whiskey.—Western 98 cts., with moderate sales.

Wool.—Nominal; washed, 50 cts.; unwashed, 35 cts.

NEW ADVERTISEMENTS.

Poultney, Trimble & Co.—Importers of Guns.
Stratton's Gents' Fine Furnishing Goods.
J. E. Kerr—Trees, Vines, Plants, &c.
John Bullock & Son—Pure Ground Bone.
Nourse, White & Co.—Nourse's Folding Plant Stand.
S. T. C. Brown—Patterson Devons.
James M. Derris—The Garrish Cabinet Organs.
J. Howard McHenry—Stallion and Jersey Bulls.
C. W. Stagle & Co.—Fults Seed-Wheat.
T. J. Woolridge, M. D.—Pure Essex Figs.
E. A. H.—Grape Vines.
American Farmer—A Southdown Ram.
Poole & Hunt—Engines and Boilers.
Noah Walker & Co.—Clothing and Furnishing Goods.
Tate, Muller & Co.—German Potash Salts.
D. Knox & Co.—Agricultural Implements.
Burns & Sloan—Building Lumber, Shingles, &c.
Hugh Sisson—Steam Marble Works.
E. G. Edwards—Pile Medicine.
Fletcher E. Morine—Commission Merchant.
Dr. James Smith—Farm for Sale.

FOR SALE

A VALUABLE AND ATTRACTIVE

FARM ON TIDE WATER, VA.

The subscriber offers for sale his Farm in Northumberland Co., Va., comprising about 1600 ACRES OF LAND situated on the Potomac and Cone Rivers. All the Farm is river-bottom land, adapted to grain and grass culture, and particularly desirable for trucking and fruit raising—the soil being well suited for all kinds of vegetables as well as the staple crops. There are 1,000 acres arable land, the balance in valuable timber of all kinds. Attached to the Farm are invaluable Oyster coves, noted as producing the finest Oysters of this section. There is a wharf on the property and three steamers from Baltimore and Washington land there every week, with the prospect of a daily line to Point Lookout, Md.—12 miles across the Potomac—upon the completion of the Southern Md. R. R. The time either from Baltimore or Washington only 8 hours. The improvements consist of a good BRICK DWELLING of four rooms, smoke, dairy and poultry houses, barn, granary and corn cribs, and three outbuildings, of four rooms each, for laborers. The whole place is under good chestnut fencing, and thoroughly drained. The Farm will be sold entire, or if found desirable will be divided into parcels of, say, 50 acres, more or less. It is well situated for such division, and, in that event, will offer very superior inducements to purchasers. Terms will be made liberal. Parties desiring to inspect the land can take the steamers either at Baltimore or Washington, and land on the Farm.

For further particulars, address the Editors of the "American Farmer," Baltimore, or

DR. JAMES SMITH,
Heathsville, Northumberland Co., Va.

PATTERSON DEVONS.

Having on hand a superior lot of young DEVONS from 6 to 18 months old, bred from the Patterson Herd, I am prepared to fill orders at reasonable prices.

S. T. C. BROWN,
Sykesville, Maryland,

oct-6t

FOR SALE,

The Trotting Stallion, MAMBRINO HAMBLETONIAN, a rich mahogany bay, about 14 years old, 16 hands high—will be shown at the Fair of the Maryland State Agricultural Society, October 7-10. Also,

Several young JERSEY BULLS.

J. HOWARD MCHENRY,
Pikesville, Baltimore County, Md.

oct-1t

Grape Vines For Sale.

Concorda, 3 years old, now bearing, 8 to 10 ft.	\$25 per 100
Concorda, 2 years old.....	15 per 100
Concorda, 3 feet.....	10 per 100
Rogers' No. 10 (a very fine Grape), finely grown.....	25 per 100
Clintona.....	15 per 100

Address E. A. H.,
oct-1t Care Editors American Farmer, Baltimore.

EDWARDS' PILE MEDICINE

Cures ULCERATED, BLEEDING, ITCHING and BLIND PILES in a few days. First application gives relief. Try it and be cured. Price \$1 per bottle. Can be sent by express.

For sale only by E. G. EDWARDS,
57 South Calvert Street,
Baltimore, Md.

oct-3t

ADVERTISEMENT.—FOR SALE.—A splendid CULTIVATOR, by Coleman, (England.) New—all iron; for cleaning the land of weeds in the fall, and for working up the land in the spring, which is indispensable in good farming. It has no equal. It is fitted with different sized points; has lever for instantly raising it out of the ground to clear obstructions, and has taken more than 80 first prizes. Also, Double Mould-Board PLOUGH, by Howard, (England.)

oct-1t JOHN M. BAXTER, Wytheville, Va.

THE AMERICAN FARMER

Save Twenty Per Cent. by Buying

GUNS,

BREECH AND MUZZLE LOADING,

Selected by one of our firm in Europe from most reliable manufacturers,
GUARANTEED TO GIVE SATISFACTION,

FROM

POULTNEY, TRIMBLE & CO.,
IMPORTERS.

No. 200 W. BALTIMORE STREET, Baltimore, Md.

Send for DESCRIPTIVE PRICE-LIST.

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STRATTON'S
GENTS' FINE FURNISHING GOODS.

DRESS SHIRTS A SPECIALTY.

No. 161 WEST BALTIMORE STREET,

Four doors above the old stand and two doors below Noah Walker & Co.'s,

oct-1y

BALTIMORE, MD.

FRUIT, SHADE AND ORNAMENTAL
TREES, VINES, PLANTS, &c.

AT PRICES LOWER THAN THE LOWEST.

Intending to discontinue business at this place, and desiring to close out all of my stock this fall, I offer rare inducements to Fruit Growers and Planters generally.

APPLE TREES, 5 to 8 feet,

Of best varieties, suited to climate of the South—10 cents each, \$8 per 100.

Standard Pear—\$30 per 100. **Plums**—\$20 per 100.

Apricots—all extra fine stock—\$15 per 100.

Cherry, Nectarine and Orange Quince Trees.

Raspberry, Strawberry and Gooseberry Plants.

A No. 1 stock of Houghton Gooseberry at \$30 per 1000.

Currants, Grape Vines and Rhubarb.

An immense stock of Conover's ASPARAGUS at \$3 per 1000.

Shade Trees, Evergreens and Flowering Shrubs in great variety, at prices too low to publish.

APPLE SEEDLINGS—1 year No. 1, \$4 per 1000.

MAZZARD CHERRY SEEDLINGS—1 year Extra, \$7 per 1000.

Together with many other Seedlings and Novelties—to learn more of which send for "Price List"—free to all.

oct-3t

J. W. KERR, Denton, Caroline Co., Md.

ESTABLISHED 1839.

TO FARMERS, PLANTERS and GARDENERS!

PURE GROUND BONE,

MANUFACTURED BY

JOHN BULLOCK & SON,

P. O. Box 636. Washington Road, Balto., Md.

PACKED IN BARRELS OR BAGS, \$45 PER TON.

For the past thirty years we have been engaged in the manufacture of PURE GROUND BONE, our crude stock being gathered daily from the Butchers here, with whom we have yearly contracts. Having recently added additional and improved machinery, we are now prepared to fill all orders in our line with promptness and despatch. Would respectfully call attention to the annexed certificate:

BALTIMORE, March 1st, 1873.

Messrs. JOHN BULLOCK & SON, Baltimore, Md.

Gents—The following is the result of an analysis of your Ground Bone:

	PER CENT.
Moisture determined at 212° Fahrenheit.....	5.44
Organic Matter.....	39.16
Containing Nitrogen, 4.47 per cent., equal to Ammonia, 5.42 per cent.	
Inorganic Matter.....	55.40
Containing Phosphoric Acid, 22.15 pr cent., equal to Bone Phos. of Lime, 48.35 per cent.	
Alumina, Oxide of Iron, and Carbonate and Fluoride of Lime not determined.	
Insoluble Residue, 3.61 per cent.	
	100.00

I am pleased to state that this is one of the richest and most available forms of Phosphate of Lime and Ammonia that can be found for agricultural purposes. The per centage of valuable ingredients named is in excess of the generality of fertilizers now being offered for sale.

Respectfully, &c.,

P. B. WILSON,

oct-1y

Analytical and Consulting Chemist.

THE BAB COCK
AND **WILCOX**
PATENT SAFETY STEAM
BOILERS.

JEFFEL'S
AMERICAN DOUBLE
WATER WHEEL.

PORTABLE
AND **STATIONARY**
STEAM
ENGINES & BOILERS

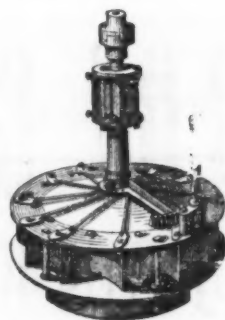
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MILL GEARING, SHAFTING, PULLEYS
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POOLE & HUNT,
Send for Circulars { **BALTIMORE, M?**

Power Pledged Equal

to any Overshot.



OVER 6,000

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NOURSE'S PATENT FOLDING
PLANT STAND,

The cheapest and most substantial Stand in
the market, and specially designed for ship-
ping. Also,

NOURSE'S STANDARD WARDIAN
CASE, FOR GROWING FERNS,

An ornamental piece of Black Walnut Fur-
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NOURSE, WHITE & CO.,
WESTBORO', MASS.

PETER HENDERSON & Co., General Agents,
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CHILDREN'S CARRIAGES

Of every description, from highest to lowest
prices, of most beautiful finish. Also, TOYS
and FANCY GOODS.

No. 224 West Baltimore street.

Also, **GEO. W. MOWBRAY.**

Dr. Hampton's Vegetable Tincture,
For the cure of all Chronic Complaints. See
certificates of cures at principal office,

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IMPORTANT TO FARMERS, DAIRYMEN AND COUNTRY MERCHANTS!

FLETCHER E. MARINE,
GENERAL COMMISSION MERCHANT,

ESTABLISHED 1855,

No. 45 West Pratt Street, Baltimore, Md.

Dealer in Flour, Meal, Grain and Feed, Hay and Straw, Dried Fruit, Butter and Cheese, Guano and other Fertilizers; also Lumber, Staves, and Tan Bark.

Consignments of produce, &c., respectfully solicited. Our charges are only the customary commission and the legitimate expenses of transportation and handling in the city.
20,000 bushels of ASHES on hand.

FLETCHER E. MARINE,

No 45 W. street, Baltimore, Md.

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IMPORTANT IMPROVEMENT IN FERTILIZERS.

German Potash Salts,

Imported directly from the mines, high and low tests.

Orders of Manufacturers promptly executed in deliveries to suit.

STOCK ON HAND FOR SALE VERY CHEAP.

Muriate of Potash, Kainit, &c.

Also for sale, GROUND BONE, guaranteed strictly pure, testing 4.112 Ammonia, 47.010 Bone Phosphate of Lime; GUANO, &c. PLEASE CALL FOR CIRCULARS.

TATE, MÜLLER & CO.

52 S. Gay St., Baltimore, Md.

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D. KNOX, late of R. Sinclair & Co.

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D. KNOX & CO.

DEALERS IN

AGRICULTURAL IMPLEMENTS & MACHINERY.

GROWERS AND IMPORTERS OF

Garden, Field and Flower SEEDS,

Trees, Plants, Fertilizers, &c.

Agents for DOTY'S WASHING MACHINES, CUCUMBER PUMPS, MONTGOMERY'S WHEAT FAN, "SUPERIOR" MOWER AND REAPER.

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Steam Marble Works,

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GRAVESTONES AND TABLE TOPS,

MARBLE COUNTERS, for Banks, Hotels and Druggists,

TILES FOR FLOORS, GARDEN STATUARY, constantly on hand,
AT THE LOWEST PRICES.

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CELEBRATED CLOTHIERS
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Announce the introduction of a plan of ordering
CLOTHING AND UNDERWEAR BY LETTER,
To which they call your special attention. They will send on application their improved
and accurate **RULES FOR SELF-MEASUREMENT**, and a full
line of samples from their immense stock of

Cloths, Cassimeres, Coatings, Shirtings, &c., &c.

A large and well-assorted stock of **READY-MADE CLOTHING** always on hand,
together with a full line of **FURNISHING GOODS**.

NOAH WALKER & CO.

Manufacturers and Dealers in Men's and Boys' Clothing and Furnishing Goods,
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BURNS & SLOAN,
No. 132 LIGHT STREET WHARF,
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BUILDING LUMBER, SHINGLES,
ASH, OAK and WALNUT.
LIME, BRICKS, SASH & MILL WORK.

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Pure Essex Pigs,

Bred from stock which I have recently imported directly from England and Canada; also,

**Light Brahma, White Leghorn and
Game Dominique Fowls,**

Each variety bred from the purest stock in this country,
and warranted to be first class in every respect. All for
sale on reasonable terms for Breeding or Exhibition purposes.

T. J. Wooldridge, M. D.,
French Hay P. O., via Glen Allen, Va.

oct 6t

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The Celebrated Fultz Wheat—Red and Smooth head—
yielding from 35 to 45 bushels to acre. Grown in Pennsylvania. For sale by **C. W. SLAGLE & CO.,**

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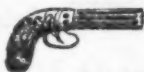
WANTED to sell, or to exchange for **BERKSHIRE PIGS, a SOUTHDOWN**
Address
RAM. EDITORS AMERICAN FARMER.
oct

The GERRISH CABINET ORGANS,

In Imperial Cases, with flexible sliding cover,

New style, and Superior in Tone and Touch to all other
Organs. At very low prices. Send for Circulars and
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William Harris,



GUNS AND PISTOLS,
With large assortment of
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Guns neatly Stocked and
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One door from South st., [sep 6t] BALTIMORE, MD.

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Offers for Sale a few Choice

Cotswold Ram Lambs,

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IMPORTED DUTCH BULBS,
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The largest and most complete collection of first class
Bulbs ever imported. CATALOGUES for the Autumn
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The FOURTH NUMBER of VICK'S FLORAL GUIDE
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Tulips, Lilies and other Hardy Bulbs for Fall
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SAUL'S NURSERIES, Washington City, D. C.

The undersigned offers a large and fine
stock of those superb

New Early Peaches,

Early Beatrice, Early Louisa and Early Rivers
—fully two weeks earlier than Hale's.

FRUIT TREES.—An extensive stock of
well grown Trees—Pear, Apple, Cherry,
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DUTCH BULBOUS ROOTS.

My importations are expected early in Sep-
tember, direct from the most eminent growers
in Holland, who have supplied me the past 21
years. They can be relied on as of the very
finest quality.

PLANT DEPARTMENT.

New and rare

GREEN-HOUSE PLANTS.

A large collection, suitable for Florists, ama-
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ROSES.—A large stock of the newest and
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Catalogues mailed to applicants.

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TREES, PLANTS and BULBOUS ROOTS For AUTUMN of 1873.

Ellwanger & Barry offer to Planters and Dealers
the largest and most complete stock in the country of

**Standard and Dwarf Fruit Trees,
Grape Vines, Small Fruits,
Ornamental Trees, Shrubs, Evergreens,
New & Rare Fruit & Ornamental Trees,
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Bulbous Flowering Roots.**

Small parcels forwarded by mail when desired. Prompt
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Descriptive and Illustrated Priced Catalogues sent pre-
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No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c.
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Establ'd 1840.

ELLWANGER & BARRY

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Monarch of the West Straw- berry Plants at \$6 per 100.

Also the following varieties at \$1 per 100; \$6
per 1000: Charles Downing, Boyden, No. 30,
Nicanor, Russel's Prolific, Kentucky Late,
Wilson's Albany, Agriculturist.

Also, RASPBERRIES, BLACKBERRIES,
CURRANTS, GRAPE VINES, and Con-
over's ASPARAGUS, at the lowest rates.

Send for Price List.

JOHN COOK, Carroll P. O.,
sep-2t Baltimore Co., Md.

TREES AND PLANTS. ROSEBANK NURSERIES, Govanstown, Balto. co., Md.

We invite the attention of Planters and Amateur Cul-
tivators, to our complete stock of the following:

PEARS, Standard and Dwarf.

APPLES, Standard and Dwarf.

CHERRIES, Standard and Dwarf.

PEACHES, PLUMS, and GRAPE VINES, together with
other SMALL FRUITS of popular kinds.

ORNAMENTAL TREES, EVERGREENS and SHRUBS,
with ROSES in great variety. A large stock of
choice GERANIUMS, VERBENAS, and
other bedding out plants.

75 to 100,000 two and three year old OSAGE
ORANGE HEDGE PLANTS.

ORDERS by mail promptly attended to.

Catalogues forwarded on application.

sep-2t W. D. BRACKENRIDGE.

THE AMERICAN FARMER

JOHN C. DURBOROW,

GENERAL AGENT FOR

THE KIRBY MOWERS and REAPERS,

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Cucumber Pumps, Seeds, Fertilizers, &c.

COE'S Unrivalled SUPER-PHOSPHATE, \$50 per Ton.



N. B. The BALTIMORE SELF-RAKE on the KIRBY REAPER and MOWER received the Diploma at Maryland State Fair, the Diploma at Frederick Co. Fair, Oct., 1872; the Kirby two-wheel Mower received First Premium at Carroll Co. and Frederick Co. Fairs, and First Premium at Virginia State Fair held at Richmond Nov., 1872. Simple, strong and durable. Positively *no side draft and no weight on horses' necks.* Extras and Repairs constantly on hand.

Send for circular and price list.

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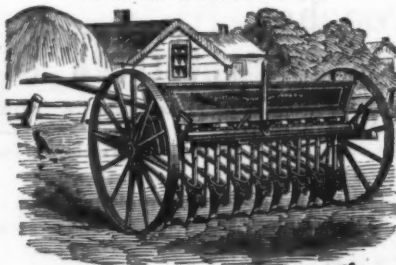
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SUPERIOR

GRAIN



DRILL,

THE ONLY

GRAIN DRILL

PERFECT

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HAVING A SUCCESSFUL FERTILIZER ATTACHMENT.

Certain in Distribution, accurate in measurement of Seed used, and possessing more facilities and conveniences for adjustment to quantity, and practical operations in the field than any or all other Drills manufactured. **ALSO, AGENT FOR**

DIAMOND STATE SEPARATOR,

WITH 4, 6 OR 8 HORSE-POWER.

Sole Agent for BALL'S CELEBRATED STEEL PLOUGHS. These Ploughs are of very Light Draft, and easily convertible into cast or combination by the farmer. Send for a Circular. Also, PERUVIAN GUANO, and BONES of all grades.

JOHN C. DURBOROW,

No. 55 Light Street, near Pratt, Baltimore, Md.

sep-31

ADVERTISING SHEET.

MORO PHILLIPS'
GENUINE IMPROVED
SUPER-PHOSPHATE OF LIME.
STANDARD GUARANTEED.

Reduced in price, and improved in quality by the addition of Potash. This article is already too well known to require any comments upon its Agricultural value. Thirteen years' experience has fully demonstrated to the agricultural community its lasting qualities on all crops, and the introduction of Potash gives it additional value.

PRICE \$50 PER TON, 2000 LBS. Discount to Dealers.

PURE PHUINE.

SUPERIOR TO PERUVIAN GUANO. Patented April 29, 1860. Manufactured by MORO PHILLIPS.

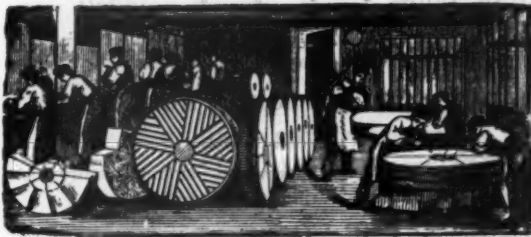
PRICE \$50 PER TON, 2000 LBS. Discount to Dealers. For sale at Manufacturer's Depots:

110 N. DELAWARE AV., Philadelphia, Pa.
95 SOUTH STREET, Baltimore, Md.

And by Dealers in general throughout the country. Pamphlets mailed free on application.

ap-ly

MORO PHILLIPS, Sole Proprietor and Manufacturer.



MORRIS & TRIMBLE,

Proprietors of the old original

**Baltimore Burr Mill-
stone Works,**

Established 1815,

Importers, Manufacturers and Dealers
in

**French Burr and other
MILLSTONES.**

BOLTING CLOTHS,

Best quality **ANNE BRAND**, by the piece or cut to order, and sent by express to any Station on Steamboat or Railroad lines. **SMUT MACHINES, BELTING and Mill Furnishing Goods** generally.

WEST FALLS AVENUE,
NEAR PRATT STREET BRIDGE.

ap-122

BALTIMORE
RETORT AND FIRE BRICK WORKS.
GEORGE C. HICKS & CO.

MANUFACTURERS OF

CLAY RETORTS, TILES, FIRE BRICK,
VITRIFIED STEAM-PRESSED

Drain and Sewer Pipe, Stove Lining, &c.

ap-ly **Manufactory, Locust Point, Balto. Office, 4 S. Holliday St.**

DANA BICKFORD'S
NEW IMPROVED
FAMILY KNITTING MACHINE

Perfection in work and simplicity of construction have been attained in this Machine. It knits both circular and flat web with perfect selvage edge, making a perfect hand-stitch. It narrows and widens, knitting heels and toes of stockings to perfection, with ribbed or plain stitch, and is a Crocheting as well as Knitting Machine. It makes all the intricate fancy stitches of the crocheting-needle better than hand-work. It is so simple that a child can operate it, and the rapidity of its work is truly wonderful—20,000 stitches per minute.

This Machine has carried the **FIRST PRIZE** at the Maryland State Fair, Maryland Institute, and Virginia State Fair, this Fall, and was the principal attraction at all of them. They are more valuable in the family than the Sewing Machine. Price, \$25 and \$35. Send for Circulars. Agents wanted in every part of Maryland. Liberal terms. Address

J. A. HAMILTON, General Agent for Maryland,
may-14 47 NORTH CHARLES STREET, Baltimore.

THE CHAMPION
EARTH CLOSET.

Having selected the new **CHAMPION** as being the very best and cheapest Earth Closet made, and accepted the Agency of it, I am now ready to furnish the public with 5 styles.

No farmer or person living in villages can afford to be without the Earth Closet. Looked at in the light of convenience, comfort and economy, it is far beyond the water closet, having all the advantages of the city water closet and none of its disadvantages, being perfectly without odor.

Send for Price List and Circular to

J. A. HAMILTON,
47 N. Charles street,
may-14 **BALTIMORE.**

THE AMERICAN FARMER

WHEAT SEEDING.

1878.

J. J. TURNER & CO'S

AMMONIATED BONE SUPERPHOSPHATE

ANALYSIS.

Ammonia, - - - - -	2.83
Soluble Phosphate of Lime, - - - - -	29.51
Bone Phosphate of Lime, - - - - -	10.67

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

Except our "Excelsior," and is made with same care and supervision—uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

PRICE \$50 PER TON.

aug-3t

J. J. TURNER & CO., 42 Pratt street, Baltimore, Md.



Italian Bees,

IMPORTED AND HOME-BRED.

Send for Circular. E. J. PECK, Linden, N. J.
USE AUTOMATIC BEE FEEDERS. mar-17

MANUFACTURERS OF PURE

NO. 1 GROUND PLASTER

C. S. & E. B. FREY,

No. 16 HARFORD AVENUE, BALTIMORE, MD.

And dealers in Corn Husks. Always buying and pay the HIGHEST CASH PRICE

FOR CORN HUSKS.

feb
12t

VIRGINIA FARMS FOR SALE.

I will sell upon very liberal and advantageous terms, three fine Farms, or any one of them, situated in Albemarle Co., Va. The three tracts contain respectively, 1038, 815, and 1009 acres, about 600 acres of each parcel being cleared; all lay well and are well watered; have large orchards; fine barns, and tobacco houses and other necessary buildings. One of the farms has on it a grist mill good for 700 to 800 bushels of toll corn, a saw mill (not in order) a large barn with threshing machine run by water power, and also an abundance of limestone. All these lands are situated near to Rail roads, Churches, Post-offices, &c., and I invite an examination of them, or correspondence concerning them. Address

aug

GEO. C. GILMER,
Charlottesville, Albemarle Co., Va.

600 ACRES | 4 CATALOGUES 20 CENTS | 12 GREENHOUSES
(1) Descriptive; (2) Wholesale; (3) Bulb; (4) Fruit and Flower Plates. Immense stock and low prices. Address
F. K. PHENIX, Bloomington Nursery, Illinois. ag-3t

East Chester Nurseries.

**FRUIT TREES,
ORNAMENTAL TREES,
BEDDING PLANTS, &c.**

Grape Vines, Raspberries, Strawberry
ries and other Small Fruits.

HARDY HERBACEOUS PLANTS.

SEND FOR PRICE LIST.

J. W. COBURN & CO.,

East Chester, N. Y.

mar-17

Waverly Nursery,

OAK GROVE P. O., WESTMORELAND CO., VA.
I have a very large assortment of GRAPE VINES,
PEACH TREES and DWARF PEARS, of all the popular
and reliable varieties, which are offered at moderate
prices, packed and delivered free of charge, either at
Wirt's Wharf or Longwood, on the Potomac, or at Leeds
town, on the Rappahannock. Send for Circular.
nov-17 JOHN RUST.

**S. E. TURNER & CO.,
STATIONERS AND BLANK BOOK
MANUFACTURERS.**

Dealers in WRITING, PRINTING AND WRAPPING
PAPERS, ENVELOPES, TWINES, BAGS, &c., &c.

No. 3 S. Charles street,

BALTIMORE, Md.

July-17

ADVERTISING SHEET.

ORCHILLA GUANO, AA, A TRUE BIRD GUANO,

Rich in Phosphates and Alkaline Salts,

From Orchilla Island in the Carribbean Sea, belonging to Venezuela, Lat. 11° 50' N., Lon. 66° 14' W

Packed in Good Bags, 167 lbs. each, 12 to the Ton,
\$30 per Ton, Cash.

B. M. RHODES & CO., Agents for the Sale of Orchilla Guano,

Office, 82 SOUTH ST., below Corn Exchange.

jan-1y

BALTIMORE.

FERTILIZERS. STRICTLY PURE GROUND BONE,

Muriate Potash, Sulphate Potash, German Potash Salts,
Nitrate Soda, Salt Cake, Nitre Cake, Sulphate Soda, Sulphate of
Ammonia, &c.

OIL VITRIOL & CHEMICALS FOR MAKING
SUPERPHOSPHATES AND FERTILIZERS.

R. J. BAKER & CO.,

jan-1y

Nos. 36 & 38 S. Charles st., Baltimore, Md.



We will purchase and have carefully shipped, by whatever mode of transportation may be designated:

FERTILIZERS of every description sold in this market—and there is, probably, no other city in the Union which offers better facilities for this purpose. We will buy, and deliver from the Peruvian Agent's Warehouses, whenever the order is sufficiently large to warrant it,

PERUVIAN GUANO,

Of the Chincha Island and Guanape brands; the various **PHOSPHATIC GUANOS** imported into this port; **BONE DUST** from the best manufacturers of this vicinity, or the cheaper kinds from a distance, as may be ordered by the purchaser;

Land Plaster, Oil Vitriol, and all Chemicals Required
In the manufacture of **HOME MANURES** or **SUPERPHOSPHATES**, from the most reliable factories.

FRUIT and ORNAMENTAL TREES, SHRUBBERY, Field, Garden and Flower **SEEDS.**

All kinds of **AGRICULTURAL IMPLEMENTS** and **MACHINERY** at manufacturers' prices. Likewise,

Cattle, Horses, Sheep, Pigs, Poultry, &c.,
Of the improved breeds. In this vicinity, in some particular kinds of stock, a better selection can be made than elsewhere, and special attention will be given to buying and forwarding such animals as may be ordered.

TERMS CASH (or its equivalent.)

SAML. SANDS & SON,

No. 9 North st., near Baltimore st., Baltimore, Md.

THE AMERICAN FARMER

B. T. HYNSON & SONS,
Paper Hangings and Window Shades,
WINDOW AWNINGS, MOSQUITO AND FLY-NETS.

Wall Papers and Window Shades of all grades and styles. Workmen sent to all parts of the country. Just received a choice assortment of different styles. Venitian Blinds made and repaired.

B. T. HYNSON & SONS,
No. 54 N. Howard Street, Baltimore, Md.

IMPORTANT TO FARMERS.

J. G. HEWES'
Ammoniated Bone Super-Phosphate of Lime,

Manufactured and Sold by **JOHN G. HEWES,**
Office and Warehouse, 370 WEST PRATT ST., BALTIMORE, MD.
Also, **PERUVIAN GUANO,** and Bones of all grades.

WASHINGTON LIFE INSURANCE CO.
OF NEW YORK.



CYRUS CURTISS.....PRESIDENT.

Assets January 1, 1878.....	\$3,426,203 27
Liabilities—Cash reserved for Policies,	\$2,913,102 00
Liabilities for claims due,	70,141 74 2,983,243 74

SURPLUS..... \$442,959 53

PLAN OF BUSINESS.

Premiums required in Cash.
Dividends are non-forfeitable and are paid in Cash.
Assets are held in Cash.
Policies are paid in Cash.

The first question for a prudent man to ask, in determining the merits of an Insurance Company, should be: is it trustworthy and responsible? The entire history of this Company has shown that its solidity is unquestioned; no imputation to the discredit of its management having ever been uttered.

DAN'L GRANT EMORY,

Manager for Maryland and District of Columbia,
my-ly 32½ ST. PAUL STREET, BALTIMORE, MD.

LEWIS TUDOR & CO.,
No. 44 LIGHT STREET,
Third door below Lombard st.,
BALTIMORE, MARYLAND,

COMMISSION MERCHANTS for the sale of GRAIN, BUTTER, EGGS, CHEESE, Green and Dried FRUITS, Vegetables and Country Produce generally. Also, an assortment of reliable FIELD and GARDEN SEEDS constantly on hand. Consignments solicited and prompt returns made.
mar-ly

EDW'D J. EVANS & CO.,
YORK, PENN'A,
Fruit and Ornamental Trees,
FIELD AND GARDEN SEEDS,

AND
HORTICULTURAL GOODS.
CATALOGUES MAILED TO APPLICANTS. aug-5t

LINTON & LAMOTT,

Nos. 70 and 72 NORTH STREET, BALTIMORE, MD.

DEALERS IN

Agricultural Implements and Machinery.

Large Stock of HORSE POWERS, GEISER'S SEPARATORS, JOHNSON'S
SELF-RAKE REAPER, MOWERS, DRILLS and RAKES.

may-6t.

LINTON & LAMOTT.

A. E. WARNER,

Manufacturer of

Silver Ware, Rich Jewelry,

Watches, Diamonds, Jewelry, Silver Ware.

Importer and Dealer in

Diamonds, Fine Watches, Silver Plated Ware, Table Cutlery,
Fancy Articles, &c.

No. 135 W. BALTIMORE STREET, BALTIMORE, MD.

FINE BRONZES AND OPERA GLASSES. SOLID SILVER WARE OF OUR OWN
je-1y MANUFACTURE.

HARRINGTON & MILLS,

No. 140 BALTIMORE STREET, BALTIMORE, MD.

Manufacturers and Importers of

Fine Furniture, Looking Glasses, Gilt Frames, Curtains and Draperies.

We call particular notice to our large stock of CANE FURNITURE, embracing
Chairs, Tables, Lounges, &c., &c.; being particularly suitable for country residences,
and adapted, from its lightness and coolness, for Southern latitudes.

A large stock of Fine Furniture constantly on hand and made to order. je-1y.

MARYLAND BRITANNIA

AND

GOLD AND SILVER PLATE WORKS.

ESTABLISHED 1850.

W M. HOLMES,

SALES ROOM.....No. 3 NORTH CHARLES STREET.

Office and Factory, Nos. 50 and 52 Holliday street,

BALTIMORE, MD.

Repairing and Replating done so as to look equal to new ware.

may-1y

THE AMERICAN FARMER

STANDARD SCALES.

FAIRBANKS'



HAY, STOCK & CATTLE SCALES

CAUTION!

The well-earned reputation of our SCALES has induced the makers of imperfect Balances to offer them as "Fairbanks' Scales," and purchasers have thereby, in many instances, been subject to fraud and imposition. If such makers were capable of constructing good Scales they would have no occasion to borrow our name.

BUY ONLY THE GENUINE FAIRBANKS' STANDARD SCALES

STOCK SCALES, GOAL SCALES, HAY SCALES, DAIRY SCALES,
PLATFORM SCALES, COUNTER SCALES, &c.

FOR SALE ALSO, ALARM CASH DRAWER

Till-Tapping Prevented!

EVERY DRAWER WARRANTED!

EVERY MERCHANT
SHOULD USE THEM.



Sold at all Fairbanks' Scale Warehouses.

FAIRBANKS & CO.,

No. 166 West Baltimore Street, Baltimore, Md.



Owners and Manufacturers

OF THE

New Iceland Refrigerator.

HOUSE FURNISHING GOODS

FORWARDED AND PACKED

WITH

GREAT CARE

BY

SAMUEL CHILD & CO.,

20 N. CHARLES ST.

Importers of CHINA, GLASS, TABLE CUTLERY,
FAMILY HARDWARE, PLATED GOODS,
and Dealers in TIN, WOODEN and JA-
PANNE WARE and KITCHEN
FURNITURE of every
character.

WATER COOLERS of our own make. ICE-CREAM
FREEZERS of the most approved kinds. PATENT
ICE PITCHERS, all qualities, and each warranted to be
as represented.

New and Beautiful Patterns of

ENGLISH, FRENCH AND AMERICAN

TABLE GLASSWARE.

WHISKEY, BRANDY AND
WINE DECANTERS,

SINGLY AND IN SETS.

BOWLS, DISHES, CELERY STANDS, &c.

Our arrangements made in person with the leading
manufacturers in Europe and this country, and having
resident agents in France and England, give us every
advantage in obtaining our supplies; manufacturing
the common class of goods, such as

TIN AND JAPANNED WARE;

Buying entirely for cash; with a thorough knowledge of
the business in all its details; purchasers may rest as-
sured that we can and will supply their wants as favor-
ably and upon as good terms as any house in New York
or elsewhere.

We respectfully solicit a visit and an examination of
goods and prices. ap-ly

MONUMENT IRON WORKS.

DENMEAD & SON,

Corner North and Monument Sts., Baltimore, Md.

MANUFACTURERS OF STATIONARY AND PORTABLE

Steam Engines & Boilers

Of all Sizes.

DAVID'S PATENT PULVERIZING MILLS, for Guanos, Bones, Ores, Clays; also
Flour Making.

SEND FOR CIRCULAR.

ap-ly

THE AMERICAN FARMER

TIMOTHY SEED, SEED-WHEAT, CLOVER, &c.

T. W. LEVERING & SONS,
Commission Merchants and Dealers in Field Seeds,
No. 55 Commerce Street, Baltimore, Md.,

Keep on hand the best varieties of Seed-Wheat; also, Clover, Timothy
and Orchard Grass Seeds, &c.

sep-3t

T. W. LEVERING & SONS.

GEORGE PAGE & CO.,
Machinists & Founders.

Portable and Stationary Steam Engines and
Boilers, Patent Portable CIRCULAR SAW MILLS,
Portable Grist Mills, Horse Powers, Leffel's
Turbine Water Wheel, &c.

No. 5 N. SCHROEDER ST., (near W. Baltimore St.,)

feb-1y

BALTIMORE, MD.

BUCKEYE MOWER AND REAPER



Still leads the van. The past harvest the Buckeye was subjected to the most thorough tests in all conditions of grain, and notwithstanding the combined opposition of the whole Mower and Reaper fraternity, this old and faithful farmers' friend came out with flying colors, and thus added fresh proofs of its simplicity, utility and durability. We ask especial attention to our MILLER'S TABLE SELF-RAKE AND REVOLVING DROPPER, REAPER ATTACHMENTS, as being simple, durable and complete.

SWEEPSTAKES THRESHER, with CAREY or CLIMAX POWERS, (either mounted or down.)

The above Thresher and Cleaner and Horse Powers are again offered to farmers and threshermen as possessing all the latest improvements, and we are prepared to convince the most skeptical that they will thresh and clean more grain in less time, better and with more ease to team, than any machines of their class in the market.

JOSHUA THOMAS, General Agent,
35 North street, Baltimore, Md.

Also, General Agent for the HAGERSTOWN WHEEL HORSE RAKE and KELLER DRILL and GULLETT COTTON GIN, and Dealer in Millstones, Bolting Cloths, Smut Machines, Belting, &c.

may-6t

ADVERTISING SHEET.

Guano! Guano!

C. W. BURGESS & SON,
No. 166 North Gay street, Baltimore,

DEALERS IN
MEXICAN AND PERUVIAN GUANO,
Phosphates, &c., and
FERTILIZERS OF ALL KINDS.

☞ Mexican Guano a Specialty.

Which they offer for sale at the lowest market rates. From the satisfaction expressed as to the quality of the Fertilizers furnished by us we feel confident that we can give the purchaser the full value of his money. Give us a call before purchasing.

☞ Country Produce bought and sold.

☞ ALSO, GROCERIES OF ALL KINDS. feb-1y

Short-Horns FOR SALE.

Having largely increased my herd by recent purchases and importations, I am now prepared to fill orders for **SHORTHORNS** of either sex. I am now using in my Herd the "Bates" Bull "Sixth Earl of Oxford" 9984; the pure Booth Bull "Royal Briton" (27,351); the Booth Bull "Lord Abraham" 11,223; the Princess Bull Lord Mayor 6,969. This gives me a combination of the best **SHORTHORN** blood in the world. I have Calves the get of Fourth Duke of Geneva 7,931; Plantagenet 8,795 Salamander 9,046, &c., &c., &c.

I also breed **BERKSHIRE PIGS**, and have some very superior young Pigs for sale. I can ship animals to any part of the country with ease, as my farm is on the Washington Branch of the Baltimore and Ohio Railroad, 15 miles from Washington and 23 miles from Baltimore, and all way trains stop directly at my place.

Royal Briton will serve a few cows other than my own at \$250 each—no charge for keep. I shall be pleased to show the stock to all persons interested. Send for catalogue to

CHAS. E. COFFIN,
Muirkirk, Prince George's co., Md.

BERKSHIRE PIGS.

PRICE REDUCED

Nice Berkshire Pigs for sale at \$20 per pair at 8 to 10 weeks old, boxed and delivered at Express Office. Send cash with order.

CHAS. E. COFFIN,
Muirkirk, Prince George's Co., Md.

AGENTS WANTED

For the Beckwith Sewing Machine, in every county in Eastern Pennsylvania, Southern New Jersey, Maryland and Delaware. Address

AVERILL BARLOW,
oct-1f 45 South Second st., Philad'a, Pa.

SMITH & CURLETT,
Steam Soap and Candle Works,
PERFUMED CHEMICAL OLIVE SOAPS,
ADAMANTINE & TALLOW CANDLES.

Cor. Holliday and Pleasant Sts.,
feb-1y **BALTIMORE, Md.**

GUANO! GUANO!!

We have constantly on hand a No. 1 **GUANAPEPERUVIAN GUANO**, which we offer for sale in lots to suit purchasers, at Agents' Warehouse at Point or uptown.

Bone Dust and Bone Flour,

which, by analysis, is the best bone offered for sale in this market.

AA, A, B & C MEXICAN GUANO,

which we offer for sale at low prices.

Give us a call before purchasing.

ROBT TURNER & SON,

43 and 46 S. Frederick St.

FIELD SEED of best quality always on hand. feb-1y

VIRGINIA LANDS.

UPPER JAMES REAL ESTATE AGENCY,
BY WILLIAM HOLMAN,
CARTERSVILLE, Va.

Who offers for sale upwards of 12,000 acres of Land, lying in one of the most desirable regions of Eastern Virginia.

Catalogues sent on application. my-1f

M. PERINE & SONS,

Manufacturers of

Flower Pots, Stone and Earthenware,

Also, **FIRE BRICK** for COAL STOVES.

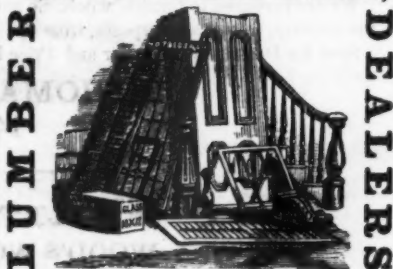
POTTERIES and SALES ROOM,

No. 711 & 713 W. BALTIMORE ST.

Baltimore, Md.

Fowl Fountains of all sizes always on hand. mar-12f

Jno. W. Wilson & Sons,



AND MANUFACTURERS OF

Sashes, Doors, Blinds, Mouldings, Brackets,
Handrails, Newels, Balusters, and other
Building Materials—on hand at reduced prices.

333 SOUTH EUTAW STREET,

Corner Cross st. [sep-1y] **BALTIMORE, MD.**

**CAREFULLY-BRED
JERSEY and**

AYRSHIRE COWS,

HEIFER and

BULL CALVES,

For sale by **L. E. RICE,**
feb-1f Princeton, New Jersey.

THE AMERICAN FARMER

THOS. NORRIS & SON,

MANUFACTURERS AND DEALERS IN

Agricultural Implements

Field and Garden Seeds, Fertilizers, &c.

Would call special attention to the following first-class Machines, &c.:

Westlinghouse Threshers and Cleaners.

Aultman & Taylor's Threshers and Cleaners.

Lever and Railway Horse Powers—most approved.

Van Wickle Wheat Fan. Price \$37.

American Cider Mill and Press—the best—\$40.

Our new Acme Plough.

Bickford & Huffman Grain Drills,

Plows, Harrows, Cultivators, Straw Cutters, Corn Shellers, and all kinds of Farming Tools. Fresh Field and Garden Seeds, Pure Ground Bone and other Fertilizers.

CUCUMBER PUMPS,

WITH PORCELAIN LINED IRON CYLINDERS.

We are prepared to furnish, wholesale and retail, the best and cheapest Cucumber Pumps in the country, to suit all purposes, from the small cistern to the deepest well.

Send for Descriptive Circular and Price List.

THOMAS NORRIS & SON,
141 Pratt st., Baltimore, Md.

For Harvest, 1878.

W. A. WOOD'S WORLD-RENOWNED

SELF RAKE REAPER,

WITH AND WITHOUT MOWING ATTACHMENT.

W. A. WOOD'S MOWING MACHINES,

Universally acknowledged as good as, if not superior to, any others in use. The above Machines have taken more FIRST PREMIUMS in this country and in Europe than any other Reaping and Mowing Machines extant. Send for Descriptive Circulars. For sale by

THOMAS NORRIS & SON, Agents,

may-1y

141 Pratt street, Baltimore, Md.

Seasonable Agricultural Implements & Machinery.

R. SINCLAIR & CO.,
62 LIGHT ST., BALTIMORE, MD.

MANUFACTURERS OF ALL KINDS OF

FARM MACHINERY
AND
Agricultural Implements
AND GROWERS AND IMPORTERS OF
GARDEN AND FIELD SEEDS, &c.,

Offer for sale a large stock of

LABOR-*SAVING* IMPLEMENTS AND MACHINERY,

Including in part, as particularly suitable for the coming Harvest,

The "Advance Mower" or "Improved Monitor,"

The simplest, strongest and most efficient Mower in the country.

**The "New Yorker" Self-Rake Reaper and Mower
and Reaper only.**

Reapers of the most approved and Improved Patterns always
on hand.

Ithica Sulky Self-Discharging Hay and Grain Rake, the best in use.

"Philadelphia" Hand and Horse Mowers,

Rogers' Patent Harpoon Horse Hay Rake.

"Buckeye" Sulky Cultivator, for Corn, Tobacco and Cotton.

SINCLAIR'S SOUTHERN IRON BRACE GRAIN CRADLES.

HAY TEDDERS, most approved patterns.

THOMAS' SMOOTHING HARROWS, for cultivating Corn, &c.

Also an unusually large and varied stock of well known and thoroughly
tested **MACHINES and IMPLEMENTS**, which we guarantee to give
satisfaction to Farmers and Planters.

R. SINCLAIR & CO.,
62 Light Street, Baltimore.

THE AMERICAN FARMER

GROVER & BAKER SEWING MACHINE COMPANY

**17 N. Charles Street,
BALTIMORE, MD.**

Buy one of their improved
"LOOK STITCH" or "ELASTIC STITCH"
Sewing Machines,

THE VERY BEST IN USE.

They combine the elements of

**BEAUTY,
DURABILITY,
SIMPLICITY AND
USEFULNESS.**

Either style embodies all the latest and most useful attachments and improvements.

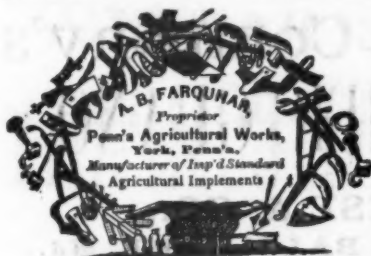
The Grover & Baker Sewing Machine Company,

Is the only Company that afford the purchaser a Choice of Stitch.
They make Two Distinct Machines,

"Elastic" and "Lock-Stitch."

SALESROOMS,—17 N. CHARLES STREET,

BALTIMORE.



PENNSYLVANIA
Agricultural Works,
YORK, Pa.

A. B. FARQUHAR,
MANAGER AND PROPRIETOR.

The Pennsylvania Agricultural Works is one of the most extensive establishments of its kind in the United States. It is furnished with improved Machinery, Foundry, Forging Rooms, Planing and Sawing Mills, Lumber Yard, &c., complete within itself. It is situated among the great Iron, Coal and Lumber fields, which form the basis of all manufacturing; and I would respectfully call the attention of the public to these advantages, confident of meriting an extended patronage.

The following are among the specialties:

AGRICULTURAL STEELS, PLOWS, CULTIVATORS, HORSE RAKES, PLOW HANDLES, THRESHING MACHINES, HORSE POWERS. &c.

HORSE POWERS.

The Horse Power is one of the most important implements, and probably the most difficult to keep in order; too much care, therefore, cannot be used in selecting the very best.

I have long made the manufacture of Horse Powers a specialty, and can safely recommend my improved Iron Geared Powers to be all that I claim for them.

FARQUHAR'S CLIMAX HORSE POWER,

For Threshing, Ginning and General Farm Use,

ranks first; being the result of many years' labor, "practice with science," and the expenditure of thousands of dollars in experimenting.

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THE PELTON OR TRIPLE GEARED IRON POWER.

This well known power is noted for its strength, cheapness and general efficiency. Like the Climax, the gearing is all secured in an iron frame, and is uninjured by the weather. The pinions are made of chilled iron, and no pains are spared to make it a first-class, cheap power.



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Have been a specialty with me for many years, and those who favor me with their orders may rely upon getting a machine which will run as light, waste less grain, and give more general satisfaction than any offered.

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Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

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Pacific Guano Company's SOLUBLE PACIFIC GUANO.

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GENERAL AGENTS.
CAPITAL.....\$1,000,000.

The use of this Guano since its introduction in 1864, and the annual increase of its consumption from a few hundred tons the first year of its use, to many thousands of tons, is the best attestation to its value as an efficient agent for the increase of the products of agricultural labor, as well as to the integrity of its production.

The large capital invested by this Company in this business, and its unusual facilities, enables it to furnish a fertilizer of the *highest excellence* at the *lowest cost* to consumers.

It is the policy of the Company to furnish the best fertilizer at the lowest price, and look to large sales and small profit for reasonable returns on Capital employed.

This Guano is sold by Agents of the Company in all the markets of the Middle, Southern and Gulf States.

Price in Baltimore \$50 per Ton 2000 lbs.

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DUGDALE'S **Great Wheat Fertilizer**

IS PACKED IN GOOD BAGS CONTAINING 200 LBS. EACH,

And is prepared in a fine dry powder, so as to drill readily. DUGDALE'S WHEAT FERTILIZER is prepared to meet the growing need of a special high-grade article, thoroughly adapted to the culture of the *Wheat crop*, and combining elements necessary for that crop in proportions not found in the ordinary Super-Phosphates; and we claim that it will be found to be by actual experiment, even though selling at a much higher price than many articles in the market, the cheapest and most valuable special Wheat Fertilizer offered to the public. ALSO,

"Eccellenza" Soluble Phosphate,
A HIGH GRADE FERTILIZER! RELIABLE FOR ALL CROPS!

It is so well-known and so universally popular, that we only deem it necessary to say that its high standard *will be rigidly maintained*, and that its *mechanical condition is greatly improved*.

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ALWAYS UNIFORM IN QUALITY—ALWAYS IN A CONDITION FOR DRILLING.

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KELLER PATENT GRAIN, SEED AND FERTILIZER DRILL.

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We claim for it Superiority—1st. In point of operation, being perfectly accurate in the distribution of Grain, Seed and Fertilizers. 2d. In principle of Construction. 3d. In Material. 4th. In Finish. 5th. In Simplicity and Ease of Management. 6th. In Durability.

It has the "Keller Patent Sowing Arrangement," which is the only perfect force-feed made, and sows any quantity of Seed desired to the acre with accuracy.

Has Spring Hoes, and drills among stumps, stones, roots, and rough and uneven ground without interruption in its working arrangement, and with equal regularity under all circumstances.

Is regulated to sow either shallow or deep, and changeable by Lever, either straight or zig-zag, while in motion. The Patent Axle renders it the most steady and easiest running Drill, and it is at the same time self-greasing.

The Guano Attachment is perfect in every respect, with Reverse Feeders and Stirrers, works with perfect accuracy and guaranteed not to choke, adhere or pack. Grass Seed Attachment is placed behind the drill and hoes, hence no interference with the even distribution of the seed.

We solicit an examination of this Drill by all who intend buying.

Have also the Empire Thresher and Cleaner, with most approved Sweep Power, for 6, 8 and 10 horses. Steam Threshers and Portable Engines, Double-gear Railway Powers with Patent Governor; Combined Peerless Thresher and Cleaner. Also, Hickok Patent Portable Cider Mill and Presses, Hutchinson's Wine Mill and Press, Agricultural Machinery and Implements generally, Field and Garden Seeds, Fertilizers, &c.

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